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PLEURAL INFECTIONS*

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CASES in which the physical signs of inflammation appeared to be confined to the pleura have been described as primary pleural infections due to exposure to cold or to trauma of the chest wall without a surface wound. X-ray examinations of the chest and autopsy findings indicate that the majority of these are secondary to a tuberculous infection of the lung located close to the pleura. The few cases of so-called idiopathic pleurisy not due to a tuberculous infection are probably due to a low grade infection of the lung developing in an area of lowered resistance, caused by exposure to cold or trauma. Infections of the pleura, therefore, are rarely, if ever, a primary process but result from the spread of an infection from adjacent structures, most commonly the lung. For this reason the clinical course, prognosis and treatment of a case of pleural infection is determined mainly by the nature and character of the primary infective process of which the pleurisy is a secondary or tertiary manifestation, and by the infective agent present.

Apart from pandemics of influenza, the most common cause of pleurisy with or without effusion is tuberculosis. Occasionally a tuberculous pleurisy is due to the extension of a tuberculous infection of the bones of the chest, of the bronchial lymph glands or of the peritoneum, but in the majority of cases it is associated with a tuberculous infection of the lung. The character of the pleural reaction, whether dry or fibrinous, sero-fibrinous or purulent, depends mainly upon the activity and severity of the lesion in the lung. The treat-

ment of a case of tuberculous pleurisy must be determined by the character and severity of the tuberculous infection elsewhere in the body. Latent and incipient pulmonary tuberculosis is most often complicated by a fibrinous pleurisy which usually terminates without the development of an effusion by the formation of adhesions between the visceral and parietal pleura. An attack of pleurisy in a healthy adult without physical signs in the lung, or the insidious development of a large serofibrinous effusion is sufficiently suggestive of tuberculosis to warrant the treatment of the case as one of pulmonary tuberculosis. Purulent effusions due to the B. tuberculosis alone are uncommon. Like serofibrinous effusions they should be treated as cases of pulmonary tuberculosis and not like a non-tuberculous empyema. If pressure symptoms become marked a portion of the fluid should be aspirated, using a needle not a trocar. Pneumothorax occurring in cases of pulmonary tuberculosis is often followed by a pleural effusion. If a valvular or open pneumothorax develops in a case of advanced tuberculosis a serofibrinous effusion appears early and soon becomes purulent due to a mixed infection with B. tuberculosis and other micro-organisms. This form is rapidly fatal despite any form of treatment. Effusions in cases of closed pneumothorax are usually serofibrinous and appear after ten days to two weeks. They should be treated like a serofibrinous effusion without a pneumothorax.

After pulmonary tuberculosis, the most common cause of pleurisy is pneumonia. In acute lobar pneumonia, which is nearly always caused by the pneumococcus a fibrinous pleurisy appearing at an early stage of the disease is always

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present. It must be considered not as a complication but as a part of the disease. In a small percentage of cases, variously estimated by different investigators as from six to ten per cent., a serofibrinous effusion of moderate size develops toward the end of the active stage of the pneumonia or after the crisis. Approximately one-half of these become purulent and tend to localize over the affected lobe, usually the lower lobe posteriorly. The presence of an effusion is suggested by a change in the percussion note, the development of flatness, increased resistance to the fingers on percussion over the affected lobe or, more important, a rise in temperature after the crisis has occurred. This should be confirmed by an exploratory puncture. In children, effusions complicating acute lobar pneumonia are usually purulent. The early diagnosis and aspiration of the effusion is important. As pointed out by Cole, purulent exudates complicating lobar pneumonia are often found to be sterile on culture. In many cases the early aspiration of a serofibrinous or seropurulent exudate or the aspiration of a sterile purulent exudate is followed by recovery; in other cases treatment by aspiration and operation later is necessary.

In the consideration of pleural infection associated with bronchopneumonia it is important to remember that bronchopneumonia is seldom a primary disease. It develops in the course of, or following some acute infection such as measles or influenza; it may occur as a metastatic pneumonia from infected emboli in ulcerative endocarditis, or from a septic focus elsewhere in the body, as a direct extension from an adjacent suppurating focus, or as a terminal infection in conditions like chronic nephritis, chronic myocardial disease, cancer, etc. Pleurisy associated with bronchopneumonia is, therefore, a tertiary process.

The treatment of pleural infections complicating bronchopneumonia must be considered in relation to the treatment of the primary infective process present. Results in treatment are determined more by our success in the treatment of the primary infective processes or the predisposing cause of the pneumonia than by the particular method or methods employed in the treatment of the pleural infection itself. Although fibrinous pleurisy is not so common with bronchopneumonia as with lobar, pleurisy with effusion occurs more often. The terminal bronchopneumonia of chronic conditions is usually due to a low grade infection of the lung by the Type IV

pneumococcus. Pleural effusions, when they occur, are serofibrinous, rarely purulent, and are treated by aspiration. A common form of bronchopneumonia is that following upper respiratory tract infections like measles and influenza. The inflammation of the upper respiratory tract caused by the unknown virus of measles or influenza predisposes to the secondary invasion of the bronchi by the *streptococcus haemolyticus*, *B. influenzae*, less often the pneumococcus, and occasionally by the *B. mucosus capsulatus*. The bronchitis and bronchiolitis is followed by bronchopneumonia, due in most cases to the streptococcus haemolyticus and the pneumococcus. Pleurisy with effusions, serofibrinous or purulent, is a more common complication of this form of bronchopneumonia than lobar pneumonia. Purulent effusions tend to localize over the lower lobe posteriorly, in the interlobar fissures, between the diaphragm and the lower lobe, over the middle and upper lobes or between the lung and the anterior mediastinum. More than one local collection of pus may be present. In patients complaining of malaise and fever with or without cough and expectoration and giving a history of having had an attack of bronchopneumonia one should carefully examine the above mentioned areas for a local collection of pus. A fluoroscopic examination of the chest is of particular value in the diagnosis of this type of case.

Effusions complicating bronchopneumonia, if diagnosed early, should be treated first by aspiration and operated upon later if necessary. As in lobar pneumonia, a pneumococcus empyema may be cured by aspiration. Empyema due to the streptococcus haemolyticus is seldom, if ever, cured by aspiration alone; nor are the results from treatment by operation as favourable as in pneumococcus empyema.

During epidemics of measles and influenza the infection is more virulent, the complicating bronchopneumonia more severe and the incidence of empyema much higher than occurs ordinarily. Reports from the Army Camps of the United States of the bronchopneumonia complicating influenza showed that approximately one-third of the cases were complicated by empyema, which was not only more common but more fatal after infection with the *streptococcus haemolyticus* than with the pneumococcus. Among forty-three cases of influenzal pneumonia treated in the Toronto General Hospital in 1919-20 a seropurulent or purulent effusion was present

in seventy-two per cent. The mortality was forty-six per cent. The *streptococcus haemolyticus* alone, or combined with the pneumococcus, or the *B. influenzae* was present in the pleural exudate in fifty-six per cent.; in one case the *B. mucosus capsulatus* was found in pure culture; in the others the pneumococcus alone or combined with the *B. influenzae*, *staphylococcus aureus* or the *streptococcus haemolyticus* or *streptococcus viridans*. The *B. influenzae*, *staphylococcus aureus* and the *streptococcus viridans* always appeared in the pleural exudate secondary to the *streptococcus haemolyticus* or the pneumococcus and were never primary causes of the effusion.

This high incidence of empyema in epidemic influenza is associated more particularly with two special types of pneumonia which have been described by Opie and others as suppurative pneumonia with necrosis and abscess formation, and as interstitial suppurative pneumonia. In the former the effusion develops from a small subpleural abscess and may be complicated by a pneumothorax; in the latter the pleura is infected from the lymphatics of the lung. In these cases effusions becoming rapidly purulent develop during the acute stage of the pneumonia. Many patients die during this stage before the effusion has localized. Local treatment of the effusion either by aspiration or operation has little effect in influencing the course of the disease. As the epidemic subsides the bronchopneumonia is not so severe and purulent effusions develop less rapidly and

show a greater tendency to become localized in the areas already mentioned. Treatment of the empyema is now more effective. Patients should be treated by repeated aspirations until the acute pneumonic process is over, and then operated upon and drained. As multiple pockets of pus are not uncommon in this type of pleural infections, the chest should be very carefully examined for other pockets of pus if the case is not doing well. Although aspiration is seldom curative in this type of empyema it relieves the patient during the acute stage of the disease and assists in the localization of the effusion and provides a better surgical risk for operation later.

Abscess of the lung is also a cause of pleural infection. A fibrinous pleurisy terminating with adhesions between the visceral and parietal pleura over the abscess area in the lung may result. In other cases a purulent effusion with or without rupture of the abscess into the pleural cavity may develop. If a pyo-pneumothorax results from rupture of the abscess the pleural cavity should be drained.

In conclusion: pleural infections are usually secondary to infection elsewhere in the body; the method of treatment employed, and its effect, depends more upon the nature and character of the primary infective process and the type of micro-organism present than upon any special method of treatment of the pleural infection itself.

Idiopathic Dilatation of the Colon.—D. Firth and K. Playfair (*Arch. of Radiol. and Electrother.*, 1923, p. 321.) point out that all cases of megacolon are not necessarily cases of congenital idiopathic dilatation, since enlargement of the rectum and colon may arise secondarily to mechanical obstruction low down from such causes as stricture. Hirschsprung's disease is a dilatation and hypertrophy of the large bowel due to an obscure cause, but apparently congenital in origin. The following hypotheses, among others, have been advanced to explain its origin—mechanically due to torsion or kinking, atresia of the rectum, and valve formation. Inflammatory changes seen in the gut are probably secondary in origin. A con-

genital origin (as was suggested by Hirschsprung), with a primary hypertrophy and a secondary dilatation, is supported by the early age of onset and may be allied to the congenital hypertrophic pyloric stenosis of infants. A case is recorded by the authors and a series of radiograms is given illustrating the condition; the gradual filling of the dilated intestine is well demonstrated. In the reported case there was also a scoliosis due to a congenital maldevelopment of half a vertebra, and it is interesting to note that it is said that congenital defects of the central nervous system are frequently associated with malformation of the skeletal system.—*Brit. Med. Jour.*, Aug. 18, 1923.

TUBERCULOUS CERVICAL ADENITIS IN CHILDREN

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THE practitioner who looks up the literature on tuberculous cervical adenitis is confounded by the variety of opinions expressed as to the best means of treating this condition. Exponents of x-rays, radium, and the mercury quartz lamp give high percentages of cures, often with no reference whatever to such factors as, the age of the patient, the stage of the disease, or whether pulmonary tuberculosis is or is not present. The specialist in tuberculosis is inclined to take the view that the disease is a generalized one, and that if the patient receives treatment along general lines the local condition in the neck will take care of itself. It is the aim of this communication to review the fundamental principles and facts that underlie all forms of treatment, and to set forth fairly what can be expected from efficient surgical treatment of this condition in children. Conclusions regarding the efficacy of surgical treatment are based not alone on a study of the literature, but are confirmed by the author's own experience.

Much has been written regarding the portal by which the tubercle bacillus gains entrance to the lymph glands of the neck. The evidence to convict the tonsil in a large proportion of cases seems ample. Primary tuberculosis of the tonsils was first reported by Orth¹ in 1879. Wood² collected 1,671 cases from the literature, in which the tonsillar tissues were examined for tuberculosis, and found tuberculous lesions to be present in 5.2 per cent. Weller³ in 8,697 consecutive tonsillectomies found active tuberculosis in 2.35 per cent. Lewin⁴ of Breslau examined the pharyngeal tonsil from 200 patients and found tuberculous infection in 10, or 5 per cent. Sir Harold Stiles puts the figures as high as 9 per cent. Generally speaking we may say that 5 per cent. of individuals who are apparently free from tuberculous disease will be found to have tuberculous lesions in their tonsils.

In cases suffering from tuberculous infection of the cervical lymph glands the percentage is much higher. A. P. Mitchell⁵ in 106 cases of tuberculosis of the cervical lymph glands found tuberculous lesions in the tonsils in 38 per cent. Williams⁶ examined the faucial tonsils of 29 cases of tuberculous cervical adenitis and was able to demonstrate tuberculous lesions in 86 per cent.

Cornet⁷, Wright⁸ and others have reported the finding of tubercle bacilli on the mucous membrane of the naso-pharynx of healthy persons. There is also ample evidence to show that infection can pass through the mucous membrane and infect the lymphatics without leaving visible evidence of their transit. Cornet⁷ brushed tubercle bacilli on the mucous membrane of healthy animals producing tuberculosis of the cervical lymph glands, the mucous membrane showing no lesions. Lexer⁹ has shown that micro-organisms can enter the body through the tonsil, leaving no trace in that organ. Wood,² in a series of animal experiments showed that in the guinea pig, in which the tonsillar tissue is scanty or absent, the cervical glands are with difficulty infected with tuberculosis, while in the hog, whose throat is well supplied with tonsils, infection is easy. The comparatively greater development of tonsillar tissue in the child may, to some extent, explain the high incidence of tuberculous cervical adenitis in children.

The teeth are probably secondary only to the tonsil as a portal of entry in infection of the cervical glands. Starck¹⁰ examined 113 children with cervical adenitis, and found 41 per cent. due to carious teeth. He demonstrated the same organism in the gland, teeth, and connecting lymphatic vessels in some cases, in others he showed the local dependence of the glandular swelling on the carious teeth. One of my cases developed swelling of the sub-maxillary glands three weeks after the extrac-

tion of a lower molar on the same side. The glands when excised, proved to be tuberculous. Moorehead¹¹ and others have reported cases of tuberculous lymphadenitis with carious teeth, in which the tubercle bacilli were found in the decayed root pulps. The cervical glands may also be infected with tuberculosis from the middle ear, mastoid, scalp, the skin on the face, or ulceration in the mouth or nasal cavity.

Theobald Smith¹² in 1898, published a paper describing differences between tubercle bacilli found in human beings and cattle. The former he designated "human" and the latter "bovine", which terms are now generally accepted. These differences are morphological, cultural and pathological. Whether mutation of types can occur—that is to say, whether the bovine may, after long habitation in the human body, become transformed into the human type, is as yet undetermined. Orth¹ and others have suggested that this change is probable, and the frequency with which "atypical" or transitional forms are met with would appear to support that view. This view would also in a measure explain the rarity of the bovine type of infection in the adult, though it is common in children. It is not an uncommon occurrence in renal tuberculosis in the adult to find scars in the neck from tuberculous infection of the cervical glands in childhood. Griffith¹³ in 106 cases of tuberculous cervical adenitis in children under ten years of age, found the bovine infection present in 72.1 per cent. of cases. Mitchell,⁵ in 72 cases in children under twelve years of age, found the bovine type in 90 per cent. Investigations of other workers in this field support the view that the majority of cervical gland tuberculosis in children is due to the bovine type of infection. Generally speaking it may be said that the younger the child affected, the higher will be the percentage due to the bovine form of bacilli. Park and Krumweide,¹⁴ who made a careful study of 1,042 cases, state that bovine tuberculosis, though common in children, is practically a negligible factor in adults; that it very rarely causes pulmonary tuberculosis or phthisis, and that in children it causes a marked percentage of cervical adenitis, and other forms of surgical tuberculosis.

These children are infected with bovine tuberculosis by drinking the milk from tuberculous

cows. In a recent survey made in a small city in Ontario, there were found 800 cases of gland and bone tuberculosis in children.¹⁸ A test of the cows supplying milk and cream to this city showed that 14½ per cent. reacted to tuberculin. A test made in 1922 of the cows supplying milk to the city of Winnipeg showed that 45 per cent. reacted to the test for tuberculosis. Some herds tested 100 per cent. positive. In 30 per cent. of the "reactors" the disease was so far advanced that the carcasses were unfit for consumption. When we consider that the milk from many of the smaller herds is sold unpasteurized, we realize the great danger from this form of infection to the children of this city.

The case of a family of four children, three of whom developed tuberculosis of the cervical glands after a change of milk supply, is of special interest. This family changed from a pasteurized milk to milk supplied by a small herd, and sold unpasteurized. Two and a half weeks after the change was made a swelling appeared in the neck of the youngest child, which was four years of age. Within the following ten days two of the other children developed enlarged cervical glands. I have not had the opportunity of examining the eldest child (14 years), but the mother states she is not affected. Two of these children I have operated on and the diagnosis of tuberculosis has been confirmed by microscopic examination. The glands in the other child affected have been broken down, and are discharging through sinuses. He has not been subjected to operation as yet, but the diagnosis of tuberculosis is undoubted. A government test of the herd supplying the infected milk showed 35 out of 41 milch cows to be tuberculous. 16 of the 35 were so far advanced that the carcasses were consigned to the vats.

The number of cases of tuberculous cervical adenitis that are transmitted directly from human beings, would undoubtedly be greatly reduced if sufficient hospital and sanatorium accommodation could be provided to take care of persons who are spreaders of infection, or if provision could be made for the care of children from homes where individuals infected with tuberculosis live.

In the early stages of the disease the tubercles are enclosed in a thick fibrous capsule, and

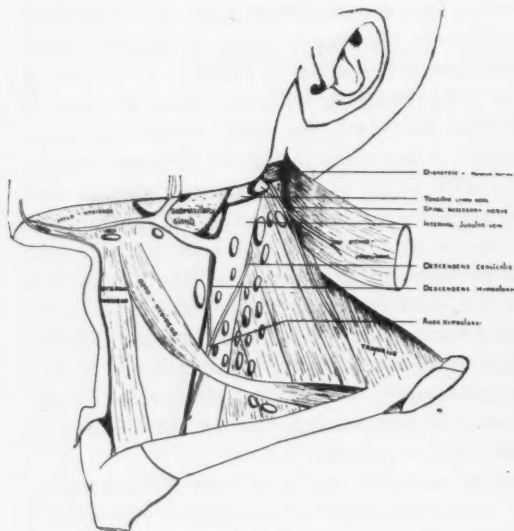


FIG. I.

Showing distribution of the deep cervical and submaxillary lymph nodes. The spinal accessory in this case did not pierce the substance of the sternomastoid muscle. The relation of the tonsillar node to the digastric muscle and spinal accessory nerve is well shown.

Sketched by J. Stacey from cadaver dissection made by the author.



PHOTO A.

Early tuberculous glands at angle of jaw.

local inoculation of the circulation is rare. However, when the focus breaks down this condition no longer pertains, and direct inoculation of the vascular system may occur. The following case is significant: A male child was



PHOTO A. 1.

Same case three months later, showing abscess formation, pus about to discharge through skin.



PHOTO A. 2.

Same case two weeks after operation. The dimple below scar marks point where abscess was about to rupture. Wound closed without drainage. Primary union.

seen in consultation at the Children's Hospital who was suffering from tuberculous glands of the neck. The glands were broken down with one or two discharging sinuses, and an abscess

was present which was about to break through the skin. This was incised. When the child was next seen a year later, he was suffering from Potts' disease of the lumbar spine, the tuberculous glands in his neck in the meantime having entirely disappeared, only the scars remaining.

The diagnosis in the great majority of cases presents little difficulty. In about 80 per cent. of cases the swelling first appears at the angle of the jaw (see Fig. 2. Photo A.B.). The chron-

—lymphosarcoma, Hodgkin's and syphilis excluded—are almost certainly tuberculous. Enlarged glands of syphilitic origin are rarely found in children. Where suspected, other manifestations of the disease should be looked for. A Wassermann test may be of confirmatory



FIG. II.

Showing early tuberculosis involving tonsillar and adjacent nodes. Operation at this stage is comparatively a simple procedure, and the scar scarcely noticeable.

icity, absence of tenderness and other signs of acute inflammation, the tendency of the glands to become massed together with extensive peradenitis is typical. However, in some early cases the glands are discreet, freely movable, and at this stage are difficult to distinguish from simple hyperplastic nodes. A negative Von Pirquet reaction is of value. The tonsils and adenoids should be removed and examined for tuberculosis, and other local foci of infection attended to if present. If, after a reasonable period of observation the diagnosis is still in doubt, the removal of one or more glands for microscopic examination is advisable. The doubtful cases will usually be found to be tuberculous. Enlarged nodes or masses of nodes in a child over two years of age, that remain visible over a period of two months



PHOTO B.

Early tuberculosis of glands at angle of jaw.



PHOTO B. 1.

Same case two weeks after operation.

value. In lymphosarcoma the nodes usually reach a large size without fluctuation, and are, as a rule, widely disseminated. Chronic discharging sinuses are indicative of tuberculosis.

Cysts and sinuses of developmental nature are usually single and have characteristic anatomical locations.

Before any treatment is undertaken, the child should first be thoroughly examined for evidence of tuberculosis other than that in the cervical glands. This of course, includes a thorough clinical and radiological examination of the chest. Local foci of infection, in teeth, scalp, ears, etc., are dealt with if present; the tonsils and adenoids removed. It is not to be expected, however, that the removal of tonsils can have any curative effect on the glandular tuberculosis in the neck. At best it is only closing the portal after the invading army has entered, and while it may prevent it from bringing up reinforcements, it is already entrenched, with ample food supply to carry it on for years. The defensive forces may surround it with a wall of fibrous tissue which will render it incapable of inflicting injury for the time. It is then content to pursue a policy of watchful waiting, in the hope that the army of defence dividing its attention with other enemies, it may seize the opportunity to break its bonds and invade new territory. Or perhaps the barbarians of the north, in the form of a mixed infection may come to its assistance, and with their help it may rapidly break down the barriers that surround it, and gaining access to that great system of transportation, the blood vessels, may over-run the country.

With the mouth and naso-pharynx in a healthy condition, treatment directed toward the affected glands themselves should be undertaken. While the general health of the child should receive attention, the fact that the great majority of children afflicted with this disease are not below the average in general health is attested to by many observers of large experience in this field. This is certainly true of the cases that have come under my care at the Children's Hospital and in private practice. Abbott¹⁵ states that "we are all agreed that tuberculosis is a lymphatic infection in early childhood, and that only when this has become considerable, and when the lymph glands are overwhelmingly invaded, do constitutional symptoms become manifest." I believe that tuberculosis of the cervical glands in children is a purely local disease in the great majority of cases.

There seems to be a considerable variety of opinion as to the most efficient treatment for this disease. Some of the discussion on this subject does not appear to be well considered. There are fashions in medicine as well as in clothes. During the past few years radiation in some form or other has been recommended for a great variety of conditions, including tuberculosis and cancer. I am unaware of any evidence that would indicate that any form of radiation will kill the tubercle bacilli in the affected nodes. Even if radiation may sometimes produce an increase in the fibrous tissue surrounding these foci, isolating the infection from the surrounding tissues, it cannot be spoken of as a "cure." These tuberculous foci may, and do become active in later life.

Cases with involvement of the bronchial or mesenteric nodes, or with lung involvement, probably should not be operated upon. Not because operation if properly performed will not give good results as far as the local condition is concerned, but the involvement in the neck is only a part of the tuberculous infection, and it is probably unwise to submit the child to any procedure which will lower its general resistance. These cases are best treated along general lines, with some form of radiation, preferably heliotherapy.

Some years ago the good reports of surgery in this field popularized this form of treatment. Almost anyone with a medical degree undertook the operation. Many of these so-called operations consisted in the removal of a few tuberculous glands, many more being left behind. In other cases a broken down superficial node was incised, and the cavity eurented, no attention being paid to the many tuberculous glands beneath. Lack of anatomical knowledge resulted in injury to important structures in the neck. The "recurrences," were many after these badly performed operations, and this, and frequent nerve injuries with paralysis and deformity, brought the operation into disrepute.

Dr. Dowd,¹⁶ the leading American authority on this subject, who has recently made a study of 687 cases operated on by him and his associates over a period of more than twenty years, states that as these children come to him at St. Mary's Hospital they expect a cure in 85 per cent. of cases from the first operation, and

in a large percentage of the remainder a cure following a secondary operation. Some of his cases have been followed over a period of twenty years. He states further that, "The operation is tedious, requires a very accurate anatomic knowledge, and is generally avoided by the busy surgeons who are in charge of the large hospital services. They are very willing to refer them to the younger men, or turn them over to any form of treatment which offers a fair prospect of success. It is particularly unfortunate that in doing this they have condemned many children to forms of treatment which offer little prospect of satisfactory cure."

Sir Harold Stiles,¹⁷ a conservative surgeon of undoubted ability and honesty, who has a very large experience in the treatment of this condition especially in children, writes as follows: "Lack of knowledge is often responsible for unnecessary injury to important structures; for recurrence—due to incomplete removal of the disease; in short, for bringing into discredit an operation which is performed too seldom rather than too frequently, and which, moreover, is often too long postponed."

The majority of cases that come to us at the Children's Hospital are already far advanced, with extensive involvement of the deep glands, in which caseation and suppuration have taken place. Many of them have discharging sinuses from previous incomplete operations. Could these patients be operated on early when the nodes at the angle of the jaw only are involved, the results would be much better, the operation not nearly so extensive, and the scar scarcely noticeable.

The general plan of the operation has been fully described by Dowd¹⁶ and others, and requires no detailed description. It is my practice to have a sterile preparation done the evening before operation, whether discharging sinuses be present or not; the hair being shaved from behind the ear and down the back of the neck for about one and a half inches from the hair line. The towels are removed in the operating room and the field painted with iodine. The incision should follow the natural crease of the skin, and should be a finger breadth below the mandible to avoid the lower branches of the facial nerve. In extensive cases a second

incision may be necessary, parallel to the first. Strict asepsis is necessary to obtain the best results. Sterile skin towels are clamped on the edge of the incision. This has the disadvantage of obliterating the landmarks to some extent, but to an operator familiar with the anatomy of the region, is not a real difficulty. I no longer put in a drain in any case. If there is much soiling of the operative field with pus from broken down glands, I sometimes swab the wound with iodine before closing it. It is essential that all haemorrhage be stopped. The incision is closed with a deep subcuticular silk-worm gut taking up the platysma. An intra-dermal suture of No. 00 plain catgut followed by a collodion dressing completes the operation. The child is placed in bed with a sand-bag on each side of the head to keep the part at rest.

Conclusions

From a study of the literature and from my own experience the following conclusions seem justified: The faucial or pharyngeal tonsil is the portal of entry in the majority of cases of tuberculosis of the lymph nodes in children, and should be removed in every case. The majority of cases of this disease in children are due to the bovine type of infection. The probability of a mutation from the bovine type of tubercle bacilli to the human type renders early infection a matter of serious moment. The testing for tuberculosis of all cows supplying milk for human consumption should be made compulsory. The sale of unpasteurized milk from any but certified cows should be prohibited. It is desirable that sufficient hospital and sanitarium accommodation be provided for spreaders of tuberculous infection, and that provision be made for the care of children from homes where tuberculous individuals live. In cases where the disease has not spread beyond the cervical nodes, radical operation with the removal of the portal of entry, if possible, is the surest and safest method of effecting a permanent cure.

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SOME USES OF RADIUM IN DISEASES OF WOMEN*

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IN dealing with a substance such as radium and its application in medicine, we must remember that it is only a little over twenty years since its discovery by the Curies working in their laboratory in Paris. Because of its scarcity and expense, it has been inaccessible to the vast majority of patients and physicians, and our knowledge of its value and its uses has in consequence been much hindered. Having regard to this, I thought that it might not come amiss to take up a few minutes of the time of this section in the presentation of some points relative to its application in some of the diseases peculiar to women.

To the public, and perhaps to many of our own profession, radium is almost exclusively associated with the treatment of malignancy in its various forms. We cheerfully grant that if its value as a remedial agent were confined to this dread scourge, it has achieved a place in our armamentarium, comparable with any of the discoveries of recent years. But we are convinced, from a knowledge of medical literature and a limited personal acquaintance with

its uses in gynaecology, that it has gained a place in the treatment of those diseases which, while not so hopeless as malignancy, still are baffling in our attempts to secure results satisfactory alike to the patient and surgeon.

To digress for a moment, may we be permitted to say that whatever the opinion of our radiological friends may be, its application in gynaecology should be directed by one familiar with the pathology of the pelvic organs. It is not without its dangers, and so far as our present knowledge goes, it has distinct limitations.

For convenience of discussion, we have chosen to divide its application into those diseases that are non-malignant and those malignant. Of the non-malignant, we have:—(1) the menorrhagias; (2) the haemorrhages of the climacteric; (3) the fibro-myomata; (4) the pruritus vulvae and cervicitis.

Of the malignant, we have:—(1) uterine cancer; (2) cancer of the vulva; (3) cancer of the urethra.

So far as our present knowledge goes we believe the normal flow of blood from the uterus is regulated by the activity of the ovary and the increase in flow in menorrhagia is probably the result of interference with the

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proper functioning of that organ. When we come, then, to consider the treatment of this abnormality with radium, it is not merely the local condition in the uterus which we must consider, but more particularly the secondary effects in the ovarian tissue.

Menorrhagia in young women.—Having this in mind, let us consider first that type of menorrhagia found in young women during the second decade. Profuse menstruation, often prolonged, painful and sometimes showing a good deal of neuro-psyche disturbance; added to this there is a progressive anaemic state almost always present. In these patients the judicious use of moderate doses of radium has proved beneficial in shortening and regulating the period. Objection has been urged that you endanger the fertility of the ovary. Undoubtedly if massive doses are used, the Graaffian follicles will be destroyed and a permanent menopause established. Recent research in rabbits rather points to the fact that fairly full doses of radium have only a slight effect upon the fecundity of the ovary in young life, and we think experience justifies this statement. W. P. Graves says, "In our earlier cases, we were greatly apprehensive of establishing a complete menopause in these young girls, but our experience seems to prove that the younger the ovary the more difficult it is to stop the menses by radiation." Hence it would seem that with reasonable care, this type of case can be treated with confidence.

A second variety of haemorrhage which we class with the menorrhagias is that seen in comparatively young women following a full term pregnancy or miscarriage. There is pronounced haemorrhage and sometimes metrorrhagia. There is some thickening of the endometrium; the uterus is sub-involuted; the ovary is often-times enlarged and tender with the occasional presence of small cysts. Treatment here should be on ordinary surgical grounds. We are here dealing no doubt, with an infection of a low virulency, and the ordinary surgical and hygienic treatment should be followed. If no specific trouble is present, good results are usually obtained. Some of these cases, however, in spite of all that can be done, persist in bleeding profusely at the period. In these cases radium can often be used to good advantage in controlling and regulating the menstrual

flow. We have in mind of course, always the contra-indication for radium in recent or old infections of the adnexa and would not use it where evidence existed of gross inflammatory reaction.

Haemorrhage at climacteric.—In our second division we have placed that form of uterine haemorrhage that is found in women about the time of the climacteric. Some of the most alarming haemorrhages we have ever seen, occur at this time. We remember a patient brought into the hospital, who had been having uterine haemorrhages for weeks, and in whom the haemoglobin was only 30, and her red blood count, 1,100,000. Transfusion had been resorted to without much permanent success. The uterus was enlarged and hard, with regular and smooth outline. Radium was applied together with general treatment. This case had no more haemorrhages and gradually improved, and is to-day able to attend to her usual household duties. This represents, in our experience, a common type of diseased uterus, *fibrosis uteri*. Marked increase in the fibrous element, and interference with the normal blood control of uterine body, probably play their part in producing the menorrhagia. Examination of the endometrium shows marked hyperplasia. In these patients, the period is much prolonged, with marked increase in the quantity of blood lost, and uncertainty as to onset; hence they are always uneasy about themselves. They suffer from increasing evidences of anaemia, associated with the neuro-psyche symptoms often present at this time. Notwithstanding all we may do in the way of tonics, rest and hygiene, these patients frequently drift into a state of semi-invalidism. Thorough curettement with judicious application of radium will, in the large majority of cases, cure your patient. The haemorrhage either ceases altogether or is brought back to normal type. In our experience, there is no class of case that responds to radium with better success than this. With your pathological report you can assure your patient in the majority of cases that no malignancy is present, but if, on the other hand, cancer be found you are in a position to deal early and sometimes effectively with the disease.

Fibro-myomata.—The third variety is the fibro-myomata. Closely associated with the

above class comes the fibro-myomata. In many of these enlarged, hardened uteri, we have intramural fibroids. A good deal of the differences of opinion with respect to the use of radium in gynaecology, circles about its use in this particular class of case. There are undoubtedly many fibro-myomata that should not be treated with radium. A study of the large number of cases reported by J. G. Clarke, Miller, Crossen, Polak, and others, shows well the range of treatment. Small fibro-myomata in women over forty, with no adnexal involvement, respond satisfactorily to treatment where haemorrhage is the dominant symptom. Here the menstrual function is not the important factor it is in younger women, and consequently freedom can be exercised in the use of radium.

Fibroids giving trouble during the 3rd and 4th decade come in a different class. It is here highly undesirable to disturb the menstrual function, hence surgical interference is the better treatment, if treatment is necessary. Myomectomy is a satisfactory operation and does not endanger the possibilities of pregnancy in the same way that a dose of radium sufficient to destroy the fibroid would in all probability do.

Small fibroids not giving trouble should, in our opinion, be left alone, but kept under observation. Large pedunculated or soft fibroids should be treated surgically. The rapidly growing tumour should only be considered surgically, in view of the fact that in about 1% or 2% of fibroids, cancer is found. Further, the possibility of sarcomatous changes in the fibroid must be remembered, particularly those of the submucous variety; as high as 9% of this type have been reported sarcomatous. Careful curettage should be a preliminary operation to the application of radium in all cases where it is to be used intrauterinely. The pathological report should determine any subsequent treatment. If cancer is present surgery and later, radium, or x-ray should be resorted to. In the large fibroids where surgery is the elective method of treatment but where, from repeated haemorrhages, hysterectomy is contra-indicated, radium can often be used with very satisfactory results. The bleeding can be controlled or stopped and the patient given

an opportunity to get into safe physical condition for operation.

Pruritus Vulvae is another condition that is oftentimes baffling to the physician. Like many other diseases, the causation of which is unknown, many remedies have been suggested, some of which are more or less successful. The application of radium has been advocated and practised to a certain extent, and we are glad to know, both from literature and personal experience, that some success has been attained. As many of these cases are in patients nearing the climacteric, one can use radium or x-ray with comparative freedom, and in those cases where no definite cause for the disease can be found, we feel that the thorough application of radium should be followed.

Leucorrhoeal discharge from an endocervical infection is one of the most annoying conditions which a patient has to bear. Various forms of operative treatment have been devised with varying results. It is gratifying, therefore, to note that favourable results are being reported from the use of radium.

Curtis of Chicago, together with other workers, reports a considerable amount of work done and with sufficient success to warrant the investigation of every case of persistent leucorrhea with a view to radium treatment. In our experience, a large number of these cases occur in comparatively young women so that non-interference with the menstrual function must be kept in mind. A valuable factor brought out is this, that cases heretofore sterile have become pregnant after the elimination of the infection by radium. It is quite true the same results occur after some plastic operation upon the cervix, but if we can attain equally good results without operation, the number of patients who will submit to treatment will be increased.

Uterine Cancer.—Perhaps nowhere else than in cancer of the uterus has radium been used with more striking results. Much diversity of opinion is found with respect to its use in this most distressing disease, but out of it all, we are gradually reaching some well accepted rules in its use. Among those who have given attention to radium therapy in carcinoma of the uterus it is recognized that only in the cervical form of the disease should it be em-

played. In the fundal type, the results from total hysterectomy have been so good that, only in those cases in which, for other reasons operation is contra-indicated, should radium be used. In cancer of the cervix, we are dealing with a much more virulent type of the disease, and unfortunately many of the cases when seen first are too far advanced for any operation. Cases of this kind are unquestionably best treated with radium and x-ray. Oftentimes one sees what would be considered a hopelessly advanced case clear up and after a few weeks scarcely any trace of the growth can be found. Unfortunately this is not the rule, but practically all these cases can be benefited by stopping haemorrhage, destroying necrosed tissue and thus eliminating the very offensive discharges which are present. Pain is relieved and the general morale of the patient, which is so important a factor, very much improved. In a series of 412 inoperable cases published by Dr. J. G. Clarke, he reports 20% living after four years, and 19% after the five-year period. In this type of the disease these results compare very favourably with surgery, with this advantage that you have no primary mortality. The use of radium here is practically free from danger, and your patient is saved the trying days of convalescence from a severe, mutilating operation, the shock and devitalizing effect of which goes a long way in producing a condition favourable to early recurrence.

There is a borderline case where the surgeon is in doubt. Here the disease has passed in some direction beyond the cervix, adjacent tissues are involved, some degree of fixation of uterus is present and the exact pathology cannot be determined until the abdomen is opened. Here we believe the results of radium are quite comparable with surgery and there is a growing belief in the mind of many that this class of case should also be turned over to radium therapy.

In recurrent cases and in cancer of a retained stump, radium would seem to be the treatment of choice, or radium plus x-ray.

In the very early cases where the disease is localized and no attachments formed with neighbouring structures, surgery should be the method of choice, because here you have an opportunity of making a clean dissection of the

pelvic organs and glands. It would seem logical to follow up these cases with x-ray or radium, preferably x-ray, as then the wider lymphatic field can be reached and isolated cancer cells destroyed. There is another factor which must not be lost sight of in dealing with all forms of menstrual disturbance about the menopause, and that is, the patient will come earlier and submit to treatment more readily when she sees before her a plan of salvation that does not involve a serious operation with its attendant high mortality. We feel that this is a very important point and cannot be too strongly stressed, particularly in view of the very high cancer mortality in our land and the propaganda waged against it. Further we must be honest with these unfortunates. While holding out a ray of hope we must intelligently point out to them that radium is not a panacea for cancer but a valuable addition to our present armamentarium, and with it, we can with increased confidence attack this fatally destructive foe of our race.

In *cancer of the vulva* not much success has been attained with radium. If the lesion is seen early when it is confined to the labiae, removal of the parts together with dissection of the inguinal glands would appear to be the safest course. The subsequent application of radium plus x-ray would seem logical in that any cancer cells lying in the lymphatics might be destroyed. In the advanced cases radium should be tried, together with x-ray, rather than attempting any surgical intervention.

Cancer of the urethra arising from urethral caruncle is a rare condition. Only some 69 cases have been reported; consequently, little information is available with respect to the use of radium. The author had experience with only one case and here wide dissection was made of the labiae and the anterior portion of the urethra and vaginal wall. Radium was then applied. As to result, we can offer no opinion at the present time. We would be inclined, however, to believe that these cases if seen early enough, should be submitted to radical operation with dissection of inguinal glands, following the same procedure as in cancer of labiae. Afterwards the use of radium and x-ray would, no doubt, be justified. In passing, we might emphasize the fact that urethral caruncle, while usually a harmless

growth, has in some cases proved potentially a very virulent type of cancer.

Leukoplakia of the labiae and introitus offers a field for the use of radium. As this condition is oftentimes a precursor of cancer, we believe that radium should be given a thorough trial. It is interesting to note that very good results are being reported from this treatment.

In conclusion, let us say that while much of the work is yet in the stage of investigation, a great deal has been done towards the attainment of a permanently accepted therapy and time enough has elapsed in the work of many, for them to have reached definite conclusions with respect to the end results.

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The Diagnosis and Management of Stones in the Common Duct.—In 273 gallbladder and duct operations on 271 patients from 1917 to 1922, William D. Haggard, Nashville, Tenn., found a stone in the common duct in seventeen of thirty-three other operations for stone in the common duct prior to 1917, and in the thirty-three cases seen after this time, the mortality was 10 per cent. Thirty-six per cent. of the patients had a history of typhoid fever, and 18 per cent. were treated for what they called "typhoid malaria." The onset began with the characteristic colic in 90 per cent. of the cases. Eight per cent. began with indigestion only. There was a history of chills in 81.1 per cent. of the cases. Fever of some degree occurred in practically all of the cases. Jaundice of varying degree, from one to many attacks, occurred sometime during the illness of 90.3 per cent. There were 90.3 per cent. who had soreness and tenderness in the right upper quadrant which varied from an exquisite to a very slight tenderness which it was hard to elicit. More than half of the patients complained of indigestion between attacks. At operation, the common duct was sometimes enormously dilated and completely filled with stones. The duct was dilated in the great majority of cases. In nearly half of the cases, the gallbladder also contained stones.—*Jour. A. M. A.*, Sept. 1, 1923.

Pancreatitis as Related to Gastro-Intestinal and Gallbladder Infections.—From clinical experience Seale Harris, Birmingham, Ala. was convinced that a damaged pancreas, either from infection or from trauma, may be the active predisposing cause of diabetes. To prove this assertion four cases are cited. Diabetes is a disease characterized by impairment of the function of the insulin-forming glands in the islands of Langerhans, and is due primarily to trauma of the pancreas, or to a pancreatitis. Infections of the pancreas are usually secondary to lesions of the other abdominal viscera, though other foci of infection, as the teeth and tonsils, may be the primary cause. In treating diabetes, the primary cause of the disease should be sought for and removed, if possible. A deficiency diet is the predisposing cause to the intestinal lesions which seem to be an important source of infection in pancreatitis. An educational campaign teaching the public the importance of a diet containing the proper amounts of carbohydrates, fats and proteins, as well as sufficient vitamins and the essential mineral food constituents, Harris believes, would prevent diabetes to a large extent. In the treatment of diabetes, due regard should be paid to the vitamin and necessary mineral constituents of food.—*Jour. Am. Med. Ass.*, Nov. 3, 1923.

THE OBSTETRICAL CAUSES AND PREVENTION OF STILLBIRTH
AND EARLY INFANT MORTALITY

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AS a general rule, the problems of the causation and prevention of maternal morbidity and mortality so overshadow the question of the loss of foetal and infant life, in the eyes of the obstetrician, that this aspect of one's duty to the community is often lost sight of. This fact prompted the writing of this paper, which is compiled from the records of the Obstetrical Department of the Toronto General Hospital for the five years 1918-1922, including all cases of stillbirth after the period of viability had been reached, and also any infant deaths occurring during the first two weeks of extrauterine life. These figures include both public ward patients under the care of the obstetrical staff of the hospital and those private cases confined in the Burnside Hospital by others, not on the visiting staff.

Attention might be drawn to the fact that the percentage of abnormal cases is always higher in hospital practice, and also that a considerable number of patients are sent into the hospital after a condition has arisen which absolutely precludes the possibility of a successful termination of the labour.

During the five years under review there were 4,492 births in the hospital, with a total of 387 infant deaths including stillbirths, which is a mortality of 86.1 per 1,000 births. It is of interest to compare these figures with those for the Province of Ontario for the year 1921 where we find 77,618 births with 6,572 infant deaths and stillbirths—a rate of 84.6 per 1,000 births. This is a very close parallel indeed. These statistics give food for a good deal of thought, because one must admit that the loss of many of these young-lives is due to causes which are preventable.

To clarify a mass of statistical material I have attempted to divide the apparent causative factors of death into four groups. The first group contains all those deaths for which no assignable cause could be found. The second

group is made up of those deaths due to causes developing during the ante-natal period. The third group includes deaths which occurred during parturition, and the fourth, those deaths from causes developing post partum in cases in which the pregnancy and the labour had apparently been normal. There were 114 deaths grouped together as unpreventable. All are familiar with the stillbirth or the early death of infants for which one cannot determine a cause, manifested either clinically or pathologically. There were thirteen such cases. There were thirty-three cases of malformations, including hydrocephalus, anencephalus, spina bifida, extrophies and other monsters. This is apparently in excess of the proportion of these conditions reported from other centres.

There were 15 macerated stillbirths, which were not due to syphilis and for which we could find no cause, and 53 premature stillbirths or living births which lived only a matter of a few days, and for which also, no cause could be determined. There were 89 deaths grouped together as due to ante-partum conditions. Maternal syphilis accounted for the largest number of these, namely 30. We know that active anti-syphilitic treatment during the pregnancy will often result in the birth of a perfectly healthy child, and where it is possible to commence treatment prior to the onset of pregnancy, one may hope for an even greater result in preventing the hereditary transmission of this dread disease.

Eclampsia accounted for 26 deaths, this figure including prematures due to eclampsia. The doctrine of proper ante-natal care has been disseminated so widely that there is no necessity to go further than to state that we have been able practically to stamp out eclampsia amongst the patients who attend our ante-natal clinic.

Twenty-five deaths were due to maternal toxæmias, which did not progress to the point

of convulsions. The patients for the greater part had been under supervision and as a result were on restricted diets with forced elimination. But in spite of this there was a large toll of infant life and as we now know, many of these mothers never completely recover from this type of toxæmia and are liable to exacerbations of what may be considered a latent condition with each subsequent pregnancy, and with a consequent series of stillbirths as a result. It was especially during the influenza epidemic that we noted the effect of an overwhelming of the maternal organism by an acute infectious fever. In nine cases the child was stillborn, or lived for a few days at the most. Several of the mothers were *in extremis* at the time of delivery; a few survived the labour and eventually recovered.

Now we come to consider our largest and, from the obstetrical viewpoint at least, our most important group, namely those deaths consequent on some complicating factor of parturition. One hundred and fifty-nine cases are classed together. These we shall discuss briefly, attempting so far as is possible, to bring them into definite groups according to the principal contributing factor, although it will be noticeable that there is some unavoidable overlapping.

Difficult labour consequent on malpresentations is an ever present problem, breech presentation accounting for eighteen infant deaths, excluding prematures. As is well known, a certain incident mortality must be looked for in such cases, especially in primiparae. But we cannot help but feel that the loss of life will vary directly with the skill of the accoucheur. Certain practical points in treatment which one may be pardoned for referring to are:—

(1) Attempt to preserve the bag of water as long as possible.

(2) Make an examination as soon as the membranes rupture, so that the type of breech presentation may be determined and the legs brought down in the case of a frank breech.

(3) Try to deliver only when the cervix is fully dilated. A bag may be advantageously used in some cases to accomplish this.

(4) Use the Potter method of "ironing out" the lower vagina and perineum, and in case of primiparae, perform an episiotomy.

We note sixteen infant deaths in cases of

transverse presentation. These were invariably neglected cases sent in from outside at a period when the chance of the child surviving was practically beyond hope. The treatment of preference would be early version where the pelvic measurements are not too restricted, without delivery until the cervix is dilated, otherwise Caesarean section.

Four cases of face presentation were lost. In all the chin was posterior. Ordinarily such a condition terminates favourably, the old, sound obstetrical axiom of "watchful waiting" being the key to success. However, occasionally, either as a result of poor uterine contractions or incomplete extension of the head, rotation of the chin to the front fails and it is necessary to supplement the efforts of nature, either by manual rotation and forceps delivery or else version. Remember always that the face is a poor dilator of the cervix and an undilated cervix is a very real complication.

Occipito-posterior position has not been listed as an entity, because these cases are all dealt with under various other headings, such as "contracted pelvis," "prolonged second stage" and "difficult mid forceps delivery," but to complete this sub-group I make mention of it here and state our idea of the treatment of such a case to be:—

(1) Sure diagnosis of the condition by means of feeling the direction of the ear with the half hand in the vagina if necessary.

(2) Watchful waiting.

(3) Manual rotation and delivery, if indications warrant this procedure.

(4) Forceps to a persistent occipito-posterior if this fails.

Our second sub group includes those cases where forceps were used in delivery. So called "high forceps" were applied on thirty-six occasions, resulting in the death of seventeen babies. Such an operation we would practically never attempt for the reason that in this country contractions are almost invariably at the inlet of the pelvis, and a head which will not mould, can practically never be pulled through without lasting damage to the child and to the mother herself. In four cases the forceps were even applied before full dilatation of the cervix, which is a manoeuvre open to the severest criticism. Ten cases of high forceps were in contracted pelvis; in three, version had to be

done to accomplish delivery, and in two, craniotomy had to be resorted to.

Seven deaths occurred in cases where difficulty was experienced with a mid forceps application; these may in contradistinction to the others, be looked upon as legitimate forceps deliveries. In several the occiput was to the rear; in two, the face was presenting; and in all there were definite indications for immediate delivery. The points to be learnt from these cases are—that in any case calling for the application of forceps, except to simply lift the head over the perineum, we must expect a certain loss of infant life; the delivery must not be delayed too long; close attention is demanded to the condition of the child by auscultation of the foetal heart sounds.

Fourteen deaths were directly or indirectly to be attributed to contracted pelvis. Proper antenatal examination with pelvimetry and supervision might have prevented some of these. The method of attempted delivery was, however, open to question in several instances. For example, two cases of Caesarean section ended fatally for the baby because the operation was delayed too long. One cannot condone a procedure which at the same time exposes the mother to the gravest danger and results in the infant's death. Mention has already been made of the use of high forceps. Five deaths resulted in cases in which version was done. Prophylactic version undoubtedly has its place in the treatment of contracted pelvis, but must be used with discretion. The operation is always to be considered as a two-stage manoeuvre; first, version; and second, extraction; the latter should never be attempted unless the cervix is fully dilated.

Ten cases are grouped together in which there was a prolongation of the second stage beyond the normal; that is, either four hours after full dilatation of the cervix, or the presenting part left on the perineum for more than an hour and a half. In six cases low forceps were applied; in two cases pituitrin was given without avail. The lessons to be learned from these catastrophes are simply:—(1) That a close watch of the foetal heart by means of a stethoscope would give sufficient warning to save life in many cases; (2) that an "ironing out" of the perineum, or episiotomy, might simplify delivery and might not subjugate the

foetus to the added pressure consequent on the use of forceps, or pituitrin given to effect delivery in the face of an unduly resistant perineum, a complication of more than rare occurrence.

In another sub-group there are listed six deaths, in which the labour had been precipitate. Ordinarily when a precipitate labour is spoken of, one thinks of an extremely rapid and easy labour accomplished often before the arrival of the doctor. But there is also the patient who, sometimes when stimulated by the use of pituitrin and sometimes without any stimulation, goes through a short tumultuous labour, in which the pains follow one another with almost tetanic force and activity. We also mention at this point, seven deaths in cases in which, judging from the evidence, one concludes that an improper use of pituitrin was responsible. Four of these cases were also listed as precipitate labour. In either case a proper obstetrical anaesthesia could have controlled the pains and very probably would have prevented the loss of life. Pituitrin is a drug which must be used with discretion. It is our routine practice to induce labour with it, and when properly handled it is without danger to either the mother or the child. The dose must be guarded, however, $\frac{1}{4}$ c.c. being sufficient as an initial start, because of the idiosyncrasy which some patients show to this drug. Again it should never be used to strengthen pains which are already strong, nor to drive the foetal presenting part against either a bony or a fibromuscular obstruction.

While speaking of proper obstetrical anaesthesia, a death might be noted in which the baby could not be resuscitated after a chloroform and ether anaesthesia of five and a half hours. Either the anaesthetic was begun in the first stage or else a prolonged second stage went unrecognized. One cannot help thinking that the foetal heart was probably not watched.

A rather large number of deaths were due to ante partum haemorrhage. We find thirty-five deaths in cases of placenta praevia, an infant mortality of over 50%. The majority of these children, however, were premature. The death rate was seen to be in direct ratio to the severity of the haemorrhage. Those forms which called for the major methods of treatment such as Caesarean section, version, or

the insertion of a bag, were much more frequently fatal than the cases which were treated by packing or simply rupture of the membranes.

Accidental haemorrhage accounted for seventeen deaths. Again, prematurity was an added complication. But this condition is, if at all severe, a matter of such grave portent maternally, that the child is hardly to be considered at all.

We note nine deaths where the cord was prolapsed. Prolapse of the cord must be looked upon as merely the result of improper or non-engagement of the presenting part. It is rather to be expected in all those cases of malpresentation or where the presenting part is found floating above the brim. It is our practice, therefore, to examine such a case either vaginally or rectally, immediately on rupture of the membranes, to determine the occurrence of this complication, because if treatment is called for at all, it must be undertaken immediately. For in those cases where the cord is found prolapsed on accidental examination, the child is generally already dead and treatment can be of no avail.

In two cases, after the use of morphine, the baby was born in a state of deep narcosis from which it could not be aroused. One was the result of the improper use of morphine and hyoscin. In the use of these drugs there can be no rule of thumb, each individual being a law unto herself, and the greatest watchfulness and judgment is to be exerted to avoid catastrophes of this kind. The other death was in a case of Caesarean section, in which case the mother had been given morphine gr. $\frac{1}{4}$ twenty minutes before the birth of a slightly premature baby.

It is to be noted that in four cases the child was stillborn with the cord tightly wound two or more times about the neck. There appears to be a diversity of opinion as to whether such an accident could be wholly responsible for the loss of the child's life. The finding was, however, definite, and the life was lost.

A condition which fortunately rarely presents itself, occurred but once and was fatal in its outcome, namely, impaction of the shoulders. As a general rule one is able to overcome this obstacle by traction either with the finger or a blunt hook, aided occasionally by episiotomy. Sometimes, however, we fail.

The last group to be considered contributes twenty-five deaths. The largest number was due to pneumonia, which accounted for seven of the total. There is no need to enlarge on the gravity of this disease in the new born.

Haemorrhage of the new born was responsible for three deaths and these lives, it must be admitted, should not have been lost had transfusion been resorted to promptly; the marvellous results of this form of treatment are well known to all. Cerebral haemorrhage following normal labour caused death in three cases, and this is to be considered, according to most modern authorities, as simply a form of haemorrhage of the new born. Too often in the past and unjustly, has the obstetrician had to bear the blame for the development of this unfortunate condition.

Four children gave clinical evidence of congenital heart lesions and autopsy confirmed the diagnosis. Two full term babies were atelectatic and died as a result of the condition; the cause of atelectasis is as yet unknown and treatment is of no avail.

Two children died of cord infections, and two of peritonitis. For one case of peritonitis no cause could be found. The other case developed from a perforation of the colon at the splenic flexure. One child, a twin, died of cerebro-spinal meningitis. This was considered to be an air born infection. Another child, whose mother suffered from a streptococcal puerperal infection, developed an ulcerative endocarditis from the same organism, and died.

There is simply this to be said in conclusion. Proper antenatal care would save many lives; by this we mean not only the guarding of the mother against toxæmias of pregnancy and preserving her general health, but the routine examination of the abdomen and systematic pelvimetry. Under these circumstances when labour actually begins we know with what we have to deal.

During the course of labour a sane procedure should be adopted. Meddlesome midwifery cannot be excused on any grounds. But on the other hand, to sit blindly by, in the presence of an impending disaster, is to admit a lack of knowledge of the fundamentals governing intelligent interference, which is, after all, the scientific application of the art of obstetrical surgery.

A CASE OF SEVERE DELAYED ANAPHYLAXIS

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ALTHOUGH occasionally, happily unusually, examples of acute anaphylactic phenomena occur in the human being following the parenteral introduction of horse serum for prophylactic or therapeutic purposes, such acute manifestations almost invariably follow the introduction of the antigenic protein, within a few minutes. The following type of case is believed by the author to be of sufficient rarity to justify its being placed upon record. I am unwilling to attempt to explain why the reaction was thus delayed, or, being so delayed, was so acute.

The patient, E. O., aged 26, son of a Montreal physician, was operated upon April 10th, 1923; tonsillectomy was performed by Dr. R. P. Wright, at the Montreal General Hospital. During the afternoon of operation, as some bleeding occurred, the patient received two intramuscular injections of "haemostatic serum" (5 cubic centimeters each). Soon after the injections were made several pea-sized elevations were noted in the vicinity of the needle puncture.

The only aspects of the patient's previous history which might be of interest are that when seven years of age a severe urticaria followed serum injection for suspected diphtheria. Antityphoid vaccination, at nineteen years of age for military service, was followed by a mild reaction without urticaria. The patient never suffered from hay fever or other asthmatic symptoms. The patient was a well-built, well-nourished, man with a somewhat highly-strung nervous system; otherwise examination prior to operation was negative in all respects. Following operation convalescence was smooth and uneventful, and on the 15th he left the Hospital in apparently good condition. Suddenly, while resting quietly at home on the afternoon of April 17th, at 5.00 p.m., there was an onset of itching; giant urticaria developed in different parts of the body, more especially the lips and ears. These symptoms were accompanied by severe weakness and nausea. At four o'clock the patient had partaken of afternoon tea, consisting of a cup of tea and sandwiches. About 5.40 p.m., the patient's father was informed by

telephone that his son had "fainted." Upon arrival a few minutes afterwards he found general oedema and urticaria with great thickening of the lips, pulse 120, fair pressure, regular. He had been given about an ounce, partly wine, partly brandy. Shortly afterwards he vomited, became pale, and the radial pulse became imperceptible. An ampoule of 1 mil. adrenalin chloride, 1-10,000 with 7/100 grain chloretone, P.D.Co., was at once given by hypodermic injection and Dr. W. F. Hamilton was summoned. When Dr. Hamilton arrived the oedema had very considerably diminished and the radial pulse had returned. He approved of the epinephrin and advised sodium bicarbonate with water by mouth. We hoped that the attack was subsiding and the danger over, and he went home.

About one drachm sodium bicarbonate was given in divided doses with water to total of about fifteen ounces by mouth. At 7.30 p.m. explosive vomiting set in with epigastric and praecordial oppression. Dr. Wright came in about this time to see the patient, and found the pulse fair; but shortly afterwards patient became restless, complained of weakness, and his radial pulse again failed. Camphor, three grains in oil, was administered hypodermically. At eight o'clock the writer of this note received a telephone message and saw the patient at about 8.15, at which time the radial pulse was barely perceptible, the heart sounds showed a rate estimated at about 140 per minute. The patient did not appear comfortable unless being fanned. The urticarial oedema had largely subsided, although the upper lip was still much swollen, so much so that the patient had difficulty in breathing and complained of great praecordial and epigastric oppression; he repeatedly made the remark that he felt as though he was going "under an anaesthetic." A hypodermic injection of $\frac{1}{2}$ cubic centimeter adrenalin chloride 1-1,000 was made, together with 1/100 grain of atropin. Calcium lactate, one drachm, was given by mouth between 8.15 and 9.15 in about eighteen ounces of water. About 9.45 he vomited. The radial pulse gradually

improved, and about 10.20 p.m. it was judged that the patient was out of danger and he was left alone for the night with his father.

The following notes were made during the night by the patient's father: "At 11.15 p.m. patient became restless; oedema again increased; he again vomited and the pulse became weaker. One-half cubic centimeter adrenalin chloride 1-1000 was again injected hypodermically. The pulse again improved, the oedema diminished, and he voided urine three ounces (estimated), and afterwards slept about half an hour. 12.45 a.m., awakened with recurrence of oedema and itching, pulse 140. One-half cubic centimeter adrenalin solution was given as before. Small normal stool occurred, and he voided about one ounce.

"1.15 a.m., pulse 112. Less oedema. Has been taking about three to four ounces of plain water per hour.

"2.05 a.m.: Has slept about 20 minutes. Restless again, frequently trying to clear mucus from throat, pulse 124.

"2.15 a.m.: Says throat feels stiff, complains of difficulty in swallowing, respirations shallow and irregular, but no asthma nor stridor; oedema and itching recurring or rather increasing again as they were never absent, merely showing waves of greater or less intensity and diminishing after each hypodermic of epinephrin so that the itching was not complained of until the next exacerbation.

"2.23 a.m.: Cocaine 10 per cent., and adrenalin 1-1,000 to glottis, on applicator kindly bent and 'armed' by Dr. Wright. There was immediate relief of throat symptoms following this application and no recurrence took place.

"2.33 a.m.: Pulse 137. 2.57 a.m., vomited about 16 ounces, at first clear fluid, and later about two ounces chiefly mucus. Complaints of bitter burning taste of vomitus and of constant 'heartburn,' and of praecordial and epigastric oppression. 2.52 a.m., pulse 127, resting quietly. 3.30 a.m., again on bed pan, no result, voided about $\frac{1}{2}$ ounce urine.

"4.00 a.m.: Patient vomited about four ounces clear fluid mixed with mucus of yellowish tinge which he said tasted or smelled like feces; some streaks of blood in the mucus. 4.05 a.m., pulse 124. Sodium bicarbonate twenty grains in water.

"5.00 a.m.: Patient again vomited about four ounces of mixed fluid and yellowish mucus. Several small black clots in vomitus. Commenced cracked ice in small bits in mouth at intervals of five to ten minutes, slept about half an hour between four and five o'clock. 5.05 a.m., pulse 122, resting quietly.

"6.35 a.m.: Vomited about two ounces mucus, yellowish tinge. 6.43 a.m., pulse 122, resting quietly. The urticarial appearance or wheals and large elevations above general surface not now marked; but lips still much thickened and arms and hands seem about double their proper size; face also was much swollen and scalp itchy."

No attempt was made to determine the patient's temperature as he was unable to keep his mouth closed on account of difficulty in breathing, and because restlessness and tossing about would have made axillary temperature of doubtful reliability. At no time did he suffer from chilliness, nor did palpation of the skin indicate him to be febrile.

During the night the patient had been left undisturbed on a chesterfield in the living-room where he first had been taken ill. The following morning, April 18th, the general condition seemed much improved, although he was weak and fearful of a recurrence of the symptoms. It was then judged safe and advisable to have him removed to the hospital so that he might be under close observation. During his stay in hospital (four days) he remained free from any alarming symptoms whatever. His urticaria gradually subsided, and he gained strength rapidly. On the fourth day he was discharged apparently well, and has remained so since that date.

Serotherapy in Scarlet Fever.—Paraf summarizes the work of Weaver, Zingher, Kling and others with injection of convalescents' serum in treatment of scarlet fever. His own

experience with it was conclusively favourable, he says, in a case of malignant scarlet fever in a child, the only one thus treated. —*Bulletin Medical*, Paris, Aug. 4, 1923.

TREATMENT AND GENERAL MANAGEMENT OF ECZEMA IN INFANTS IN PRIVATE PRACTICE*

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BEFORE entering into the description and management of eczema in infants, it might be well to state briefly the underlying causes. Anyone who has had to do with large numbers of eczematous or exudative diathesis infants, as they are frequently called, will be struck with their general abnormal behaviour to both food and infections. They are frequently referred to as generally susceptible children, not only to infection or inflammation of the mucous membranes as head colds and their complications, but to many skin manifestations such as eczema and furunculosis. The various organs show symptoms of the trouble, sometimes the digestive tract, lymphatic, bony and even the nervous systems. The great difference between the exudative diathesis child and the normal one, is that the former is abnormally constituted from a cellular standpoint, his immunity is lowered, his skin surface is easily irritable, his food tolerance is much reduced, especially for fat and carbohydrate, while in many cases their abnormal cellular constitution and altered reaction to food makes them peculiarly susceptible to certain ingested proteins producing eczema, asthma or urticaria.

In dealing with one of the chief manifestations, viz. eczema, of this so-called diathesis, one has to constantly bear in mind this underlying pathological condition. Generally speaking, eczema may be divided into two broad types, (a) the exudative or wet type most usually observed in fat breast-fed infants, and (b) the dry type more commonly seen in the artificially fed undernourished child. The condition usually does not manifest itself before the first month and shows a tendency to spontaneously disappear after the first year, though many, however, persist for years after this.

The exact underlying causes or processes

which take place are, as indicated previously, not clearly understood, but there are certainly three factors which are directly operative in producing the condition.

(a) Overfeeding with either fat or sugar, or both of these ingredients.

(b) Local irritation.

(c) Anaphylactic idiosyncrasy to foreign proteins (most commonly lactalbumin, egg-white, casein or beef protein).

The therapeutic remedies that we have at our disposal are based generally upon these three causative factors.

The Food.

(a) *Breast fed infants.*—When eczema occurs in breast-fed infants it is most usually found in the fat well-nourished type of infant who has been grossly over-fed on a 2 or 3-hour interval. The infant besides having eczema shows the ordinary signs of dyspepsia or over-feeding such as loose, frothy stools with a good deal of colic and gas. I have never been convinced that either the fat or sugar ingredients were directly the cause; rather is it due to over-feeding probably with all of the ingredients, and the symptoms of colic, etc., produced by excessive fermentation of the abnormal carbohydrate intake. I should like to utter a warning here that under no circumstances should the infant be weaned, for the task of supplying artificial nutriment makes the problem doubly difficult. Briefly then, in breast fed infants the task is that of reducing the food intake by one-third or even one-half and nursing the infant every four hours. In many cases it is necessary to still further reduce the fermentation by the addition of half to one ounce of protein milk before nursing; as the skin condition improves the food intake may be cautiously increased to the infant's nutritional needs. It is always wise in circumstances such as this to encourage the mother to empty her breasts,

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otherwise she may lose her breast milk entirely; this is an important detail which should never be overlooked. Very occasionally does one see a dry scaling eczema in a breast fed infant, and then it is only in one who has been receiving insufficient nourishment; the problem is then one of re-establishment of breast milk and supplying the deficiency. In addition to the above measures I have found it wise to give about 30 grains of sodium bicarbonate each day in the infant's drinking water, which is usually sufficient to keep the urine alkaline.

(b) *Artificially fed infants.*—Here the situation is doubly difficult because one has to deal with two problems, one, a great one, of under-nutrition, and the other the local condition, which is usually of the dry, scaly type on the face and extremities. There is no doubt in my mind that excessive amounts of fat and soluble carbohydrate (sugar) exaggerate the condition in every instance. In the mild cases it is permissible to employ full skimmed milk and to make up the required calories either with barley, granum or groats flour which is cooked in with the 30 grains of sodium bicarbonate. This type of food is deficient in both the anti-scorbutic and the anti-rachitic accessory food factor; the former may be supplied if necessary by small doses of orange juice (provided the infant does not react to it with an increase in the eczema, then of course other anti-scorbutics must be added such as tomato juice or potato water), and the latter by pure cod-liver oil, to which I have never seen an infant react. I am firmly convinced that all sugars are more harmful than the fats, and have, therefore, made it a routine to omit the former from the dietary of eczematous infants.

If the eczema is moderately severe I am in the habit of discarding plain cows' milk entirely and using St. Charles Brand evaporated milk which is ordinary cow's milk evaporated 2 2/10 times and then homogenized. It should be borne in mind that the caloric value of this milk is twice that of plain cow's milk. This milk is modified in the same manner as has been mentioned above with the skim milk, i.e. the starch is added and cooked. Here again the accessory food factors must be employed; with the use of evaporated milk one thus over-

comes any possible chance of anaphylactic reaction with cow's milk.

Idiosyncrasy to Food Proteins.—In my hands this has been extremely disappointing, yet in a few instances it has produced gratifying results. At the present moment, however, I am not prepared to state positively that we might have had just as good results with the general dietetic and local measures without the knowledge of the skin tests. Only in rare instances did removal of the offending protein from the diet have any beneficial result. Of 228 tests applied in 35 consecutive cases under 2 years of age in private practise in the last two years there were only 30 positive results. Of the 108 cases not tested in the same period of time I think I obtained almost equally good results. The chief offending proteins in the series were as follows:—lactalbumin, casein, egg white, whole milk, wheat, potato, beef, barley, orange juice.

It has been customary when a positive reaction is obtained to omit the foreign protein from the diet—in those instances when lactalbumin, casein or cow's milk shows a positive reaction it is essential to use evaporated milk. In my hands evaporated milk has been more successful than any of the powdered milks.

In breast-fed infants occasionally one will obtain a positive reaction to some food such as egg, cow's milk, potato, or beef, which the infant has not had; the explanation of this is that the particular protein in the mother's diet is carried over in her milk, and if the offending protein be omitted from the mother's diet a decided improvement is sometimes observed in the local skin condition. In my series I have had several such instances, but I must confess that I used local treatment in addition, so that I am not prepared to state exactly how much benefit I derived from alteration of the mother's diet entirely.

Local Care.—If one is to achieve success in the treatment of infantile eczema infinite attention must be given to every detail. In the same patient one may observe several types of eczema, for instance there may be a seborrhoeic condition of the scalp, an acute weeping eczema of the face, a dry cracked eczema of the popliteal space and a diffuse papular eczema of the body—for this reason several different ap-

plications may be required for the same patient.

Generally speaking, eczema may be divided into the following types, as far as local treatment is concerned:—(a) Wet; (b) Dry acutely inflamed; (c) Dry and rough; (d) Seborrhoeic; (e) Eczema intertrigo; (f) Diffuse vesicular or papular; (g) Infected.

The following general remarks apply to the local care of all eczema. No water of any description should be used until all the eczema has disappeared, then two or three times a week a bran bath may be employed using a superfatted lanolin soap. Instead of the bath, the infant may be washed over with cotton dipped in olive oil, while if caking or crusting of any of the local applications occurs they may be softened with lanolin or vaselin. It is generally better, however, to let all the local applications wear off. If, after the eczema has disappeared there is a tendency to dryness or chapping of the face, a bismuth paste composed of: Bismuth subcarbonate 2 drachms, lime water Q.S. and anhydrous lanolin 2 ounces may be applied each time the infant goes out of doors and special care should be taken to see that the infant is not exposed to cold winds. All ointments used should be frequently applied, *i.e.* sufficiently often to keep the parts well covered. Special instructions should be given that no wool of any description comes in contact with the skin. In every instance scratching should be prevented with the use of aluminum mitts or a straight jacket.

(a) *Wet or Weeping Eczema*.—Most usually observed in fat, over-fed, especially breast-fed infants. It begins on the cheeks behind the ears and in the antecubital and popliteal spaces—beginning as acutely inflamed papules which coalesce and finally exude serum, and in a few days the face is oozing and covered with crusts.

For this type of eczema crude coal tar is almost a specific; there is no skin lesion in infancy which responds so readily to treatment as a weeping eczema does to crude coal tar properly applied. It is very important that the proper type of coal tar be procured. It is entirely different from the wood tar of the pharmacopoeia which has been so extensively used in skin lesions, especially eczema. This crude coal tar is a by-product in the manufacture of coal gas and may be obtained direct from the gas works or any large drug house. It should

be of inky black consistency, thick so that it will scarcely run, and should contain no granules. This crude tar preparation should be applied over the raw surface with gauze on a wooden spatula two or three times a day. This treatment should not be rubbed off but repeated for 3 or 4 days and then allowed to wear off. After this is worn off the skin is red and smooth, showing no evidence of the original eczema. Following this a bland protecting ointment may be applied, such as the bismuth paste for which a formula has been given.

(b) *Dry and Acutely Inflamed Type*.—This is the most common type of eczema, observed almost on any locality of the body in large sharply defined or irregular patches, or in the form of red papules. This particular form of eczema is also most amenable to tar, only in a different form. The prescription as recommended by L. W. Hill, I have been in the habit of using as follows: take of crude coal tar 2 drachms, zinc oxide and powdered starch of each 2 drachms; vaselin sufficient to make 2 ounces; make an ointment. This is a thick, dirty green paste and should be applied to the face by means of a mask made of burnt linen. A liberal application should be made twice daily. If the eczema is present on the extremities the ointment should be applied on burnt linen, held in place with bandages. It should be borne in mind that tar contains a certain amount of phenol and that there is a danger of absorption if it is used over too large an area, especially if the surface is raw. I must confess I have never seen any harmful effects from repeated application of the tar paste to both the face and the extremities and even small patches on the trunk. If there is considerable thickening or scaling of the skin the addition of 10 grains of salicylic acid to the ounce of the tar paste is frequently beneficial.

(c) *Dry and Rough Eczema (not acutely inflamed)*.—Usually tar is not necessary for this type; either bismuth paste or lanolin applied liberally several times daily will be sufficient. Occasionally some benefit will be obtained by the employment of small doses of thyroid extract. As an addition to the above mentioned ointment, and especially if there is considerable induration, salicylic acid should be added as previously mentioned.

(d) *Seborrhoeic Eczema*.—This type is usually seen in small infants. It shows itself very soon after birth and is frequently referred to as "cradle cap" or "milk crust." It consists of yellowish greasy scales or crusts over the fontanelle, frequently covering the entire scalp running down to the eyebrows and the bridge of the nose. All that is necessary is to instruct the mother to soak the scalp in olive oil at night with a bonnet, and in the morning comb off the scales with a fine tooth comb and rub in vigorously an ointment of 4 per cent. resorcin. Once or twice the scalp should receive a green soap shampoo. The resorcin usually has to be continued for some weeks as the scales form very rapidly.

(f) *Eczema Intertrigo*.—This form of eczema is most usually observed around the genitalia and inner surfaces of the thighs, it not unusually extends up over the abdomen and behind over the buttocks. It is an intense fiery red eruption usually associated with considerable thickening. It may appear in other localities such as behind the ears, axillae and folds of the neck; when in this location it is usually moist. The management of the eruption when it occurs on the lower abdomen and genitalia consists in protecting the parts from the irritating acid urine and also from the faeces. With this end in view, no diapers should be applied and a large pad of absorbent cotton placed so as to absorb the urine and faeces and all the parts exposed to the air in a warm room, the excreta being wiped off with cotton dipped in olive oil. To the regions should be applied several times

a day or as necessary, the bismuth or tar paste mentioned previously, the latter being employed in the more severe cases. It is very important that enough sodium bicarbonate be given each day to keep the urine alkaline. The treatment of the intertrigo when it occurs in the folds of the neck, axillae, etc., differs somewhat. Care should be taken to keep the opposing surfaces apart by means of pledgets of absorbent cotton after first powdering the parts liberally with zinc stearate dusting powder.

(g) *Papular Eczema*.—This form is most usually observed in children over 18 months of age and consists of numerous dry, indurated, frequently scaling papules distributed well over the surface of the body especially on the trunk. The management of this type is again a little different; the infant is sopped well over with a thin starch solution which is allowed to dry on, and in the evening the tar paste is rubbed well into the skin. This process has to be repeated several times.

(h) *Infected Eczema*.—As very frequently happens especially in infants that are ill nourished, infection takes place very rapidly, especially in the region of the scalp. Ammoniated mercury ointment thoroughly applied over the infected areas is indicated, while if furuncles occur they should be opened in the usual manner and alcohol compresses applied. The scalp is in some instances literally covered with these furuncles, and for this nothing is more efficacious than continuous alcohol compresses.

Abdominal Surgery without Detached Pads and Sponges.

—The essential feature of H. S. Crossen's, St. Louis, method is the substitution of a long gauze strip for the ordinary detached sponges, the greater part of the strip being always outside the abdominal cavity. The strip is 10 yards long. Two strips are made by dividing the yard-width of gauze in the centre and folding each half longitudinally to six thicknesses. Each strip is therefore 10 yards long, about 3 inches wide, and has six thicknesses of gauze. For protection and conven-

ience in handling the strip is packed into a small muslin bag, 5 inches wide and 10 inches deep. The end of the strip is stitched to the bottom of the bag, and the strip is then packed into the bag in such a way that it may be pulled out a little at a time, as needed. The filled bags are sterilized and are then ready for use. At operation, the bottom of the bag is clamped or pinned to the abdominal sheet, and the gauze strip is pulled out a little at a time as needed for sponging.—*Jour. Am. Med. Ass.*, Nov. 10, 1923.

HEREDITARY SYPHILIS

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THE statement has been made repeatedly that there has been in the past, a gross exaggeration of the importance of syphilis as it affects infant and child welfare. I believe that such statements emanate either from those who are grossly ignorant of the widespread ravages of the disease, or from those who deliberately close their eyes to its seriousness. In any consideration of a disease which is so varied in its clinical manifestations, which is so resistant to treatment and to which no class of society is immune, exaggeration of its menace is a very forgivable error.

Two years ago I published certain deductions as to the prevalence and depredations of the congenital form of the disease, which were based on my personal experience whilst in charge of a venereal disease clinic, on the study of vital statistics, and on a study of the literature. These deductions may be briefly summarized as follows:

(1) In 1920, in Toronto, there were approximately 2,000 still-births and miscarriages, and of these one-third or 670 were (judging by statistics given by numerous authors) syphilitic in aetiology. This meant an unnecessary loss to that city of 670 live births—unnecessary since we know that a large proportion of these pre-natal deaths could have been prevented had the parents received proper treatment.

(2) Four per cent. of admissions to the wards of the Hospital for Sick Children, Toronto, were proven to be syphilitic. Probably 5 per cent. of all live births are infected and of these 25 per cent. die in the first year. Thus in Toronto, alone, approximately 160 infants die annually as a result of a syphilitic infection. Compare this figure with the number of deaths due to broncho and lobar pneumonia, 176, and to digestive disturbances, 224, and the importance and the seriousness of the problem is realized.

The question is frequently asked—What

percentage of the child population of a community can be deemed to be luetic? Although 4 per cent. of hospital medical admissions are found to be Wassermann positive, this figure cannot be made applicable to the community as a whole, since such hospital admissions are drawn largely from the poorer classes, and it is probable, though not proven, that in this class there is a greater incidence of syphilis. Jeans and Cooke, by a study of a large number of cases drawn from various classes of society, estimated that in St. Louis the incidence of hereditary syphilis at birth is only 3 per cent. Williams of Baltimore believes, however, that 6.5 per cent. are infected. It is probable that the smaller figure is more nearly correct. There is no doubt that the birth incidence of lues has been, and still is, much affected by the Great War. The number of cases encountered where the infection has been traced to the father who has contracted the disease overseas is very striking, and it will be some years yet before this influence is mitigated.

The ante-natal and post-natal mortality due to hereditary syphilis, though the most serious aspect of the problem, is by no means the only aspect. One has but to attend a venereal disease clinic at a children's hospital and see thirty or forty of these patients coming in for treatment to realize some of the late effects that may be produced. Of 138 tertiary cases in my own clinic, 3 per cent. are deaf; 3 per cent. have incurable deformities of the palate or nose; 8 per cent. have permanent impairment of sight, and 12.3 per cent. are mentally deficient. Thus over one-quarter of these children have incurable physical defects which will in later life markedly diminish their earning capacity and will in some cases render them charges on the municipality.

Realization by the profession of the seriousness of the problem which confronts us is the first stepping stone to the more difficult task

of its correction. It is doubtful if such correction can ever be complete, but there can be no question that great improvement can and will be accomplished. The principal methods employed are four in number: (1) Education of the public; (2) Education of students and practitioners of medicine to a fuller knowledge of the symptomatology and treatment of the disease; (3) Efficient pre-natal treatment; (4) Intelligent treatment of the syphilitic child or adult.

The first method, *e.g.* education of the public, it is not my intention to discuss in this paper, except to state my personal conviction that educational propaganda directed toward the adolescent child may, unless the greatest care is exercised, do more harm than good.

As to the second method—the education of the profession—improvement is taking place each year, but I feel that, in so far as the teaching of hereditary syphilis is concerned there is still room for progress. The number of cases in the early or late stage in which an incorrect diagnosis has been made by the physician referring the case to the hospital is very striking. If every one of us were on the watch for only the more common manifestations of the early and late stage of hereditary syphilis, I am convinced that 95 per cent. of all cases would be detected. In the early stage the eruption is typical and should never be mistaken for any other disease. Its time of appearance—usually in the first month of life; its characteristic distribution, involving as it does the middle zone of the face and the palms and soles, and leaving the abdomen and lower part of the back comparatively clear should render the diagnosis easy. If, associated with this eruption is an enlarged spleen and a persistent rhinitis, treatment should be instituted immediately. The importance of examining every infant when first seen, for possible splenic enlargement, cannot be too strongly emphasized. There are not many conditions in infancy which produce such an enlargement: on the other hand, it is a sign which is present in about 85 per cent. of all luetic infants. One other manifestation of the disease should be mentioned here since it is not infrequently unrecognized—the pseudo-paralysis of one or both upper extremities due to a specific epiphysitis or periostitis. It was

the appearance of this symptom which prompted the parents of over 20 per cent. of my cases to seek medical advice.

In the late stage the development of interstitial keratitis, periostitis of the long bones, progressive mental deficiency or paralysis, and the presence of Hutchinson's teeth are the reasons for the large majority of patients applying for treatment. The lantern slides which I will show at the end of the paper will portray some of these conditions better than I can describe them.

No discussion of the treatment of congenital syphilis is complete without reference to the ante-natal treatment. The literature at present is full of reports by many observers dealing with this phase of the subject, and their results of treatment differ only in respect to the degree of success achieved. I have yet to see results recorded which were discouraging. It is the consensus of opinion that the pregnant, syphilitic woman is unusually amenable to anti-luetic treatment, and that with anything like efficient therapy, we may expect healthy births in about 93 per cent. of the cases. Thus the prenatal and infant mortality due to syphilis in the city of Toronto could, with efficient treatment of the pregnant mother, be reduced from 830 to 58, or a saving annually of 772 infant lives.

Lastly, let us consider briefly the treatment of the syphilitic child and the results that may reasonably be expected to follow such treatment. An analysis of the cases under my care up to May, 1922, showed that with persistent arsenical and mercurial therapy a negative Wassermann reaction and an apparent cure could be obtained in a large percentage of the early cases, in a smaller percentage of the latent cases, and in a very materially smaller percentage of the tertiary cases. The average time required to produce a persistently negative Wassermann varied according to the stage of the disease when treatment was commenced. In the early stage an average of six months was required: in the latent stage eleven months, and in the tertiary stage sixteen and a half months. Thus to obtain an accurate conception of our ability to cure the disease it is obvious that we must consider only those cases in the first, second and third stages which have been

under treatment for six, eleven and sixteen and a half months respectively.

In estimating the results of treatment, I have used the Wassermann reaction as an index, not that I think it is an ideal or infallible index, but it is unfortunately the only one we have at the present time. An apparently cured case in these statistics is one which has had three or more successive negative Wassermann tests taken at two or three months interval, and in which, needless to say, there are no signs of active syphilitic infection. Improved cases are those in which the Wassermann reaction is fluctuating between a negative and a weakly positive. Unimproved cases are those whose blood test is still positive or strongly positive.

Of thirty cases in the early stage, 83.3 per cent. are cured, 3.3 per cent. improved, and 13.3 per cent. unimproved.

Of fourteen cases in the latent stage, 35.7 per cent. are cured, 28.6 per cent. improved and 35.7 per cent. unimproved.

Of sixty-six tertiary cases, only 24.2 per cent. are cured, 24.2 per cent. improved, and 51.6 per cent. unimproved.

The results appear, at first glance, to be a little discouraging, particularly the results obtained in the tertiary stage, but it must be remembered that this condition is the most intractable to treatment of all syphilitic conditions. In this group of cases, moreover, are many who attended very irregularly for treatment, and these cases helped materially to lower the percentage of cures.

I have purposely omitted detailing the exact routine of treatment as this has been published previously, but there are several important points in the management of these cases which I feel should be emphasized:

(1) In dealing with the new-born luetic infant, one must use discretion in the administration of salvarsan intravenously. If the child is markedly undernourished and anaemic, it is, as

a rule, better policy to restrict one's treatment to the use of mercurial inunctions until such time as the general condition of the patient improves.

(2) Attention to the diet and maintenance of the nutrition of the young infant is quite as important as anti-luetic medication. Needless to say, every effort should be made to maintain maternal nursing.

(3) Treatment of the nursing infant through the medium of the mother's milk has nothing to recommend it except ease of administration. Such treatment is both inadequate and ineffective.

(4) Persistency and regularity of treatment is one of the prime essentials to success.

(5) The greatest problem to be faced is the management of the Wassermann-fast case—the child who reports for treatment usually with some tertiary manifestation and whose blood after two or three years' conscientious treatment is persistently very strongly positive. Such cases are, as a rule, symptom-free, and the problem which demands solution is—shall we continue intravenous therapy at the risk of producing arsenical poisoning, or shall we discontinue treatment and invite a return of symptoms such as those of cerebro-spinal syphilis?

After four years' observation of such cases, I am becoming more and more convinced that the continuation of arsenical treatment for longer than two years is seldom if ever, advisable. The possibility of the disease causing serious trouble in later life is, I believe, greatly exaggerated, and my own experience is that the best plan of procedure consists in improving the child's general condition by intelligent dietetic, hygienic and tonic treatment, and in ignoring altogether the Wassermann reaction.

Stage	Cases	Cured	Im- proved	Unim- proved
Early	30	83.3%	3.3%	13.3%
Latent	14	35.7%	28.6%	35.7%
Late	66	24.2%	24.2%	51.6%
Total	110	41.8%	19.1%	39.1%

THE CLINICAL VALUE OF D'ESPINE'S SIGN*

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SOME years ago D'Espine called attention to the fact that a whispered sound following the spoken voice in some patients may be heard over the spinous processes of the upper thoracic vertebrae; and that such a sound was abnormal.¹ He considered this to be the earliest physical sign of enlargement of the tracheo-bronchial lymph nodes. We find in our literature, however, that different interpretations of this sign have been made by various authors. Dr. Morse of Boston, in a recent article, states that he had the interpretation of this sign confirmed by D'Espine in August, 1921.²

It may be well to state at the outset that opinions differ as to the value of this sign. The Committee on Medical Research of the National Tuberculosis Association has concluded, as a result of a study of the x-ray and clinical findings in chests of normal children from six to ten years of age that D'Espine's sign, as indicative of enlarged tracheo-bronchial lymph nodes, is of little value.³

On the other hand, there are many who attach great importance to its presence.

In view of the fact that manifest adult tuberculosis is looked upon as secondary to tuberculosis of the bronchial glands—that is to say, an endogenous mode of infection taking place in adult life as a result of intercurrent disease, or unfavourable environment and lowered resistance—I determined to pay particular attention to the study of all children coming to the chest clinics at the health centres, whether they were well or sick. Autopsy records of tuberculous children show us that the bronchial glands are involved in from 80% to 100% of the cases, and in 60% of the tuberculous adults. We should therefore endeavor to demonstrate them clinically in all children suspected of the disease.

At our various clinics, 395 complete physical examinations of the chests were made on children up to sixteen years of age. These were consecutive examinations carried out within a certain period of time. Of that number, 238 such examinations were made at one clinic and these will be offered for further analysis.

D'Espine's sign is best elicited when the arms are folded well across the chest, the head sharply flexed, and the patient sitting erect. The examiner auscultates posteriorly over the course of the trachea, and the patient is asked to speak sharply, using the words "one" or "nine." In positive cases, the voice is found to be accompanied by an added whispering sound localized to one or two vertebrae, often extending to the fourth and fifth dorsal spines, and occasionally to the sixth.

It might be well at this point, to bring out a factor which probably enters into the formation of D'Espine's sign: I refer to the level of the tracheal bifurcation. In the infant, it is at the level of the seventh cervical spine, and by the tenth year, it has reached the third, while in the adult it is at the fourth or fifth. Consequently in our study of this sign, we expect it to be heard below the tracheal bifurcation. In positive cases the glandular mass acts like consolidated lung tissue, in that it becomes a good voice conductor.

D'Espine's sign was present in 45 cases examined. The diagnoses in these cases were: whooping cough in three cases; chronic bronchitis in three cases; acute bronchitis in four cases; tuberculosis of the bronchial glands in fourteen cases; pulmonary tuberculosis in two cases; and the remainder (nineteen) were suffering from undernourishment, diseased tonsils, adenoids, etc.

The diagnosis of the fourteen cases of tuberculosis of the tracheo-bronchial glands was based chiefly on the clinical manifestations.

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The symptoms in these cases consisted of certain pressure symptoms, and the toxic symptoms so characteristic of a chronic tuberculous process. Lack of evident cause for change in the general condition of a child is, I think, characteristic of a tuberculous lesion in the bronchial glands. These cases then, were considered as being clinically active.

Another group of 43 children were suffering from some form of respiratory disease, but D'Espine's sign was not present. The diagnoses in these cases were: whooping cough in five cases; bronchial asthma in two cases; asthmatic bronchitis in two cases; bronchiectasis in three cases; unresolved pneumonia in two cases; chronic pharyngitis in one case; chronic bronchitis in 20 cases; pulmonary tuberculosis in three cases; tuberculous pleurisy in two cases; tuberculosis of the bronchial glands in two cases; and pulmonary abscess in one case. (Incidentally, I may mention a case of Hodgkin's disease which belongs to another clinic and in which this sign was absent.)

Still another group of children, in whom a definite cervical adenitis was diagnosed, had D'Espine's sign present. In the absence of x-ray examination, the question arises whether or no there was an associated tracheo-bronchial adenopathy.

It was interesting to note that, in four cases diagnosed as having tuberculosis of the bronchial glands, D'Espine's sign had almost disappeared on final examination after a prolonged period of observation. It is possible, of course, that we may have been dealing with a non-tuberculous process. We speak of the glandular enlargement following measles and whooping cough as being evanescent, that is to say, these glands may return to normal sooner or later after the acute infectious process has cleared up. This was noted in two children suffering from whooping cough.

In our study of D'Espine's sign, observations were also carried out in respect to venous arborization, spinal and interscapular dullness, and the bronchial sound of the spoken and whispered voice and of respiration. Eustace Smith's sign was also checked up.

Occasionally, dilated capillaries were seen between the seventh cervical spine and the third dorsal spine in respiratory cases with and without D'Espine's sign, as well as in cases

whose chests showed no evidence of pulmonary disease.

Bronchial breathing when listened to over the cervical spines is very distinct from the occiput to the seventh cervical spine; then it becomes quite distant until the level of the bifurcation of the trachea is reached, when it becomes vesicular in quality. As a rule it was noted that the bronchial breathing extended to almost the same level as D'Espine's sign, and occasionally it was found to extend beyond it. It should be stated here that an exaggerated vesiculo-bronchial respiratory murmur, often heard posteriorly between the second and fourth dorsal spines, and particularly to the right of the spine, is a normal finding in children. This is related to the right primary bronchus.

The bronchial whisper, obtained by auscultating over the cervical spines while the patient is whispering "one-two-three" or "three-thirty-three," is subject to the same variations or modifications as the bronchial breath sound just discussed. That is to say, the whispered sound would lose its distant bronchial character and become vesicular, or disappear altogether after the bifurcation of the trachea was passed. It certainly was noted that in most cases where a D'Espine's sign was found, the bronchial whisper would extend to the same level.

The bronchial voice sound, on the other hand, seemed to become vesicular in quality soon after the seventh cervical spine was passed in the majority of cases.

In adults, a dull note is normally present over the first four dorsal spines, and in children there is normally a dull note extending to the second or third dorsal spine. A dullness over the fourth, fifth or sixth spine would have to be considered as pathological.

In those cases with a definite D'Espine's sign, I did not find the vertebral dullness extending below the third dorsal spine in any case. There was only one case that demonstrated interscapular dullness, and that always signifies that considerable pathological change is present.

Eustace Smith's sign, or the venous hum heard over the upper sternum, bears no relation to D'Espine's sign. It is heard as frequently in apparently normal children as it is in those with respiratory disease.

In the three groups, most of the children were tested with tuberculin both with the human as well as the bovine types of tuberculin (Pirquet). Approximately fifty per cent reacted to one or both types of tuberculin in each group.

X-ray confirmation of bronchial gland tuberculosis has only been carried out in selected cases. I can only state the observations of the x-ray groups of the Research Committee referred to earlier in the paper. It was the consensus of opinion that children are probably more apt to show definite x-ray evidences (of simple as well as serious respiratory affections) in the hilum and trunk shadows than are adults. In the Committee's series, twenty-three children presented a D'Espine's sign without any corroborative evidence on x-ray examination. In three others, there was x-ray evidence of tracheo-bronchial adenopathy, but the sign could not be elicited.⁴

In the absence of postmortem work on this subject, we have not the opportunity of conclusively checking up the physical and x-ray signs that we often may attribute to adenopathy.

SUMMARY

There are signs to be studied over the vertebrae which may have to be considered normal or abnormal; and D'Espine's sign is the most important of these.

This sign has been found associated with bronchial glandular tuberculosis, with non-tuberculous respiratory affections, and in apparently normal children. It has also been found absent in cases of bronchial glandular tuber-

culosis and the non-tuberculous respiratory affections. It was associated with fourteen cases of bronchial glandular tuberculosis and two cases of pulmonary tuberculosis. It was absent in three cases of pulmonary tuberculosis, two cases of tuberculous pleurisy and two cases of bronchial glandular tuberculosis. The frequency of this sign then, can be noted in this group of cases.

In many cases, no satisfactory explanation could be offered to account for its presence, nor can I explain why it should be absent in those cases where one would expect to find it.

When compared with the extension of the bronchial sound of the spoken and whispered voice, and of the respiration, as well as the spinal dullness, it was found to be the most constant of these physical signs.

Tuberculosis of the bronchial glands often exists as a distinct clinical entity, and should be capable of diagnosis, as the recognition of such a condition while limited to the bronchial glands, is of the utmost importance.

Corroborative evidence by means of the x-ray should be obtained whenever D'Espine's or the allied signs suggest a tracheo-bronchial adenopathy.

D'Espine's sign, then, should be of some clinical value in the diagnosis of disease of the bronchial glands, only when properly evaluated and correlated with clinical, laboratory and roentgenographic data.

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- (1) D'ESPINE, *Bulletin de l'Acad. de Med. Paris*, 1907, vol. 57: 167.
- (2) MORSE, M. L., *Am. J. Dis. Child*, vol. 24, No. 5, p. 362.
- (3) Transactions of National Tuberculosis Association, 1922, p. 529.
- (4) *Ibid.*

Improved Technique for Topographic Percussion.—Oettinger refers particularly to deep percussion of the heart, and mentions several advantages from the method of tapping the distal epiphysis of the middle phalanx, the finger bent at the joint between the middle and the terminal phalanx. The finger is applied with some force but is lifted up immediately as it is lightly tapped.

Action of Light on Blood Regeneration.—

Hobert bled mice and observed the regeneration of the blood under different conditions. It was very slow, if the animals were kept in darkness. They lost appetite and died. When kept in daylight, the regeneration was complete in thirteen or fourteen days after a bleeding with loss of 50 per cent. of the erythrocytes. The ultraviolet rays, applied best in four or five day intervals, conditioned a regeneration in ten or eleven days.—*Klinische Wochenschrift*, June, 21, 1923.

FEEDING PROBLEMS OF OLDER CHILDREN*

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PEDIATRISTS are credited with the ability to care for the feeding problems of infants during their first year of life and to meet all types of eventualities and intricacies arising during this period. Adjusting the peculiarities of digestion, treating intolerance for one or other element making up the total food of the infant, supplying its requirements in total calories as well as in the proportions of the different elements of its food are acknowledged as the special sphere of the pediatricist in so far as infant feeding is concerned. It is a rare occurrence nowadays, with the popularization of the pediatric idea and with the development of health centres and pediatric clinics, to find an artificially fed infant who is not under the care of some physician who is endeavouring to properly supply that child's requirements after one or other of the accepted methods of feeding.

This worthy zeal with which the problems concerning the feeding of infants during their first year of life are followed seems often to lag after the first year has passed. Once the infant is given whole milk with a goodly allowance of solid or semi-solid food and there is no longer the necessity for careful adjustments of formulae, the mother is all too frequently left to herself, while interest in the case as a feeding problem wanes. That there are feeding problems in children past the first year of life, and especially during what is called the pre-school age, cannot be denied. Anyone who is called upon to handle a large number of children will testify that often these problems tax the ingenuity of the physician. It is the nature and method of handling some of these problems that I wish to discuss in this paper.

The older child is most frequently brought to the physician with the complaint that he has no appetite. In looking through a large number of private case histories this is the complaint which occurs most frequently in the

writer's experience. With the infant it is different. Poor appetite in the infant rarely plays an important rôle; here the frequent complaints are failure to gain regularly, vomiting, irregularities of the bowels, etc., but with the older and sometimes apparently healthy child, it is the unwillingness of the child to eat that which is placed before him which constitutes the outstanding feature of his feeding problem from the mother's standpoint. Likewise from the standpoint of the physician, whatever the cause of the nutritional disorder may be found to be, this lack of desire for food is the complaint most common to all the causes.

The causes of poor appetite may be discussed under the following headings:

- 1.—Children with physical defects.
- 2.—Children with faulty digestion, especially with greater or less intolerance to fat or carbohydrate.
- 3.—Faulty diets.
- 4.—Children whose diets are not faulty, but who lack proper discipline.

Combinations of any of the above, may of course frequently be found.

1.—*Children with Physical Defects.*—Any physical defect which is allowed to go untreated in a child is liable to affect its nutrition. The effect of constitutional diseases is of course obvious; no one will deny the effect of, say, Potts' disease, or valvular heart disease, or nephritis on the child's nutritional condition. In these instances, however, the child will more often be brought to the physician with complaints referable to the location of the trouble. No less important to the nutritional state, however, are such conditions as carious teeth, enlarged cervical glands, diseased tonsils, hypertrophied adenoids, and faulty posture. Whenever one or other of these defects exists, attempts must be made toward their correction. It is a grave error to counsel a mother to do nothing to carious deciduous teeth, and much

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worse for the physician or the dentist to advise their premature extraction. Carious teeth require careful attention. There is now arising both in the United States and Canada a group of dentists who specialize in the care of children's teeth. These men are known as "pedodontists" and bear the same relationship to general dentistry that the pediatricist does to general medicine. Like the pediatricists, their work is chiefly prophylactic. They devote themselves to the work of preserving the deciduous teeth by cleaning them carefully and by inserting temporarily cement fillings in the cavities. They will rarely and only for extremely good reasons advise the extraction of a temporary tooth. Physicians will find it greatly to the advantage of the patient to obtain from one of these men an opinion on what is best to be done in those instances of carious teeth.

Hypertrophied cervical glands are usually due to absorption from teeth or tonsils, and attention to the contributing cause whatever it may be, will usually remedy this defect. It is after the cause has been removed that the syrup of the iodide of iron is most effective, not before.

The tonsils are often responsible for lack of appetite in children; not when they are large merely, but when they are manifestly diseased. It is not the purpose of this paper to enter into a detailed discussion on tonsillectomy. Suffice it to say, however, that from the standpoint of the subject under discussion, the hypertrophied or imbedded tonsils with resultant enlargement of the cervical glands, especially where there is a history of frequent colds, are best removed. As for the adenoids, manifestations of their enlargement are sufficiently evident to all physicians. Removal is indicated when their size is sufficient to produce nasopharyngeal obstruction with all its attendant symptoms.

Faulty posture, flat feet, scoliosis, etc. are themselves sufficiently obvious upon a careful routine physical examination. Talbot¹ has demonstrated the association of faulty bodily mechanics with diminished powers of digesting fat, with chronic constipation and with some cases of periodic vomiting. He has shown how by simple exercises and by the use of abdominal

supports, these defects can be corrected and the accompanying symptoms cured.

The great error so often made is that the child who is brought to the physician simply with the complaint of having a poor appetite, is all too often dismissed with a cursory examination of the heart, and a tonic containing tincture of nux vomica to be given before meals. It cannot be too strongly emphasized that a careful and complete physical examination with the child completely undressed, as well as records of the height and weight of the child, are of the very greatest importance in the diagnosis of these cases.

2.—*Children with Faulty Digestion.* When we come to consider children with faulty digestion we find that they fall into two main groups. We have one group in which there is a prolonged intolerance of carbohydrates and another in which there is a varying inability to digest fats. The cases of carbohydrate intolerance often date back to infancy and generally belong to the class known as chronic intestinal indigestion. These cases, perhaps, present some of the most difficult feeding problems that we are called upon to consider. The children of this group are very much undersized and underweight, have very prominent abdomens, pass large, porridgy and foul stools, and show a very great intolerance of carbohydrates with a varying intolerance of fats, depending upon the severity of the case. This group is so important that it falls into a class by itself. The cases require the most painstaking and careful study in the regulation of the diet, often lasting over a period of years before any satisfactory results can be seen. It is scarcely in the scope of this paper to enter into a discussion on the pathogenesis and treatment of chronic intestinal indigestion; suffice it to say that the best results are obtained by diets rich in proteins and poor in carbohydrates and fats. Details of such diets as well as metabolic studies may be found in a recent paper on the subject by Dr. Alan Brown and his associates.²

Faulty digestion of fat is a more common condition and considerably simpler in treatment. Poor appetite, coated tongue, heavy breath, constipation, sometimes light coloured, grey stools which are very foul, are among

the outstanding symptoms. These children are often underweight, have sallow complexions and are particularly listless. A microscopic examination of the stool stained with Sudan III, almost invariably shows quantities of undigested fats varying in amount according to the severity of the case. The treatment of this group in addition to regulation of the diet, is first, to remove all the fat from the dietary, prohibiting cream and butter entirely and completely skimming the milk. A change in the disposition of the child will be noted almost immediately after treatment has been begun. The sallow colour soon gives way to a clear skin of good colour, the child becomes playful and shows satisfactory gains in weight almost from the beginning of treatment. As improvement continues it is permissible, as well as desirable, to allow small quantities of butter, watching the effect upon the stool. The reason for the introduction of butter is in order not to deprive the child for too long a period of the fat soluble vitamin contained in butter. However, if butter is not well tolerated it is possible to supply the deficiency of the vitamin by giving small quantities of cod liver oil. This, in my experience, is often very well handled by these patients; say five or ten drops three times daily. If given early in the treatment, there is no reason to fear the development of symptoms which may follow a prolonged deprivation of the fat soluble vitamin. Cream should never be allowed, and a return to whole milk from the skimmed milk, after definite signs of improvement have been manifest will hardly be found necessary, although it cannot be said that such a change would invariably prove harmful.

3.—*Faulty Diets.* We come now to a consideration of the largest of these groups, namely, those children who show no physical defects, who may or may not be undernourished, but who have poor appetites chiefly because their diets are faulty. It is in such cases where the physician is tempted to dismiss his patient with a tonic.

The importance of taking a careful and detailed history of all the child's habits as well as of his daily menu cannot be too strongly emphasized. It will not suffice to ask how many meals the child eats each day, for the

mother will invariably answer "three." She does not consider that a drink of milk an hour before breakfast is food, and she has the same attitude toward the mid-morning drink of milk, the mid-afternoon drink of milk and the late night drink of milk. These, to the mother, merely mean giving the child a drink, and it is difficult to convince her that these drinks may interfere with the regular meals of the child. To cite a case in point: a child of three years, in good physical condition, though somewhat pale, was brought to me because of poor appetite. Questioned as to how many meals the child was given per day, the mother definitely answered that she gave the child three meals with nothing to eat in between. Detailed questioning however, revealed the following interesting information, that in addition to eight ounces of milk at each meal, the child took a drink of eight ounces of milk upon awakening, another at 10 a.m. before the morning nap, another at 4 p.m. after the afternoon sleep, and another at 10 p.m., when she would invariably awake and demand her bottle. The child was actually consuming a total of fifty-six ounces of milk per day containing over eleven hundred calories. The weight of the child was thirty pounds. Allowing 40 calories to the pound as covering the needs of a child of this age, the total daily requirements amounted only to 1,200 calories, 1,100 of which were being supplied to the child in the form of milk alone. Little wonder that this child had no appetite! Treatment in this instance consisted merely of reducing the daily milk allowance to twenty ounces, allowing eight ounces with the breakfast and a similar quantity with the evening meal. The remaining four ounces were to be used in custards and milk puddings. With these simple changes the appetite immediately improved and the pallor was shortly replaced by a good, healthy complexion.

Many mothers include cream in the dietary of the child with or without the advice of the attending physician. While some children can tolerate this addition perfectly well, many cannot. The effect upon the appetite becomes noticeable almost immediately. It is my firm belief that cream has no place whatever in the dietary of a young child, first because it is all too frequently not well borne, giving rise to

symptoms of fat intolerance, and secondly, because it is far more effective than an excess of milk in destroying the appetite. Often a mother will deny having ever given her child any cream, when detailed questioning will reveal the fact that she does give him "the top of the bottle."

It is so common an experience to find physicians and child health organizations, as well as people interested in the sale of milk, recommending that children be encouraged to drink as much milk as possible during the day; at meals, between meals and at bedtime. The slogan "as much milk as the child can drink" has been popularized throughout the length and breadth of the United States and Canada, with the result that milk is often given to the exclusion of green vegetables, red meat and coarse bread.

Only a few days ago I saw a child twenty months of age, of good family, who was brought not so much because the appetite was poor, but because of a progressive pallor which had become quite noticeable about six months previously. The haemoglobin was down to 35% and the erythrocytes were 2,550,000. This child was consuming a quart of milk a day (40 ounces), a little cream on her morning cereal, and practically no other food. When it was explained to the mother that the fault lay in the fact that the diet had consisted too exclusively of milk she was greatly surprised and remarked "I have always been told to give the child as much milk as possible."

This brings us to the question of the optimum daily quantity of milk in the dietary of a child who is on solid food—that is, any time after the first year. Without wishing to enter into a polemic on this subject, and without assuming an iconoclastic attitude towards a time-honoured practice, one might still with reason ask this question: is milk, as a liquid food, an indispensable part of the dietary of a child who has teeth and is able to use them? The answer is unquestionably in the negative. A balanced daily allowance of digestible food, sufficient to meet the needs of the growing child, sufficient in total calories, sufficient in each of the essential food elements, namely fat, carbohydrate, protein, salts and water, and sufficient in all the vitamins is what is indispensable.

While fresh milk meets the needs in the infant, it falls short of the needs of the older child. The older child has teeth and must be made to use them. Therefore I would say, whatever be the quantity of milk allowed to a child, it must never be such as to inhibit the appetite for the more substantial solid foods. Milk must never be given between the regular meals, nor is it desirable to allow milk at all the meals. Between twenty-four and thirty ounces daily is more than ample for a child between one and two years of age, while after two years it is scarcely necessary and often undesirable to allow more than from sixteen to twenty ounces daily. One of my patients, a child of four, who suffered from an intolerance to cows' milk in any quantity, has not received one drop of milk in any form for more than two years. His growth and development have been quite normal and he has had no ill effects from this prolonged omission of milk from his diet.

The development at an early age of a liking for foods other than milk is of extreme importance as a distinct prophylactic against nutritional disturbances of later childhood. Healthy infants who are given cereal and rusks at about six months of age, invariably take these foods well and digest them perfectly, but if close to a year is allowed to elapse before foods other than milk are allowed, it is not an uncommon experience to have the child obstinately refuse anything but his bottle. Early training in drinking from a cup or from a spoon is no less valuable. It is not desirable to allow the child to form a fixed habit of taking his food in one way only—such as sucking it from a nipple—and the longer this habit exists, the more difficult it becomes to break away from it.

The problem of lack of appetite due to faulty diets, then, will most frequently be found to arise from an excess of milk or cream, or both, given with meals and between meals. Needless to say, sweets or food of any kind, sometimes even fruit, given between meals may have the same effect. A child will eat what is put before him if he is hungry, but not otherwise. And here it is well to point out the value of skimming the milk as a means of stimulating the appetite. It is perhaps one of the best means

at our disposal and it cannot be too highly recommended.

4.—*Faulty Discipline.* We are frequently confronted with the problem of the child whose diet has not been particularly faulty, who is given nothing to eat between meals, and yet, who has no appetite and does not gain in weight. The physical examination rarely reveals anything which bears directly upon the cause of his poor appetite, but a careful survey of the child's habits will often prove enlightening. The question of discipline at meal times is equal in importance to that of the regulation of the diet. Poor discipline will at times be found to be the sole cause of the subnutrition. We must ask the parent the following questions: Does the child eat alone, or does he eat at the table with the rest of the family? Does he have toys to play with while he is eating? Does he feed himself, or does he refuse to eat unless he is fed? Does the mother coax the child to eat, or give him larger portions of food of which he is especially fond to replace that which he has refused to eat? How long is he allowed to spend at each meal? How long is the interval between meals? How long does the child rest during the day? How late is he allowed to stay up, and at what time does he awaken in the morning?

Children should eat by themselves, and from the earliest possible age be taught to feed themselves. Toys or diversions of any kind must not be allowed at meal time. No child should ever be urged or forced to eat that which he refuses; he must be allowed to go hungry until the next meal time. Allowing the child to sit for two hours at table, alternately eating a bit, playing with toys, running off and having to be brought back or coaxed back in order to finish what was left are among the worst habits possible. Still worse is it from the standpoint of discipline to answer a call for food between meals after a child has refused to eat what was set before him at meal time. The child must be made to wait. A mother will often complain that the child will not eat unless she sits beside him; another, that she must feed him; another, that he must have a certain toy before he is willing to take food. The truth is that any child will eat if he is hungry, but not otherwise.

In order to stimulate the appetite, then, all

these errors of discipline must be corrected. The entire meal should be placed before the child, and he should be left alone without toys, from twenty-five to thirty minutes. Whatever is left uneaten at the end of that time, whether it be much or little, must be removed and no morsel of food, nothing but water, is to be given until the next meal. The interval between meals should in no instance be less than five hours, and sometimes five and a half hours. It is often surprising how quickly a child will commence to eat and to gain in weight when these simple rules are rigidly enforced. To cite another case, a child of seven was brought for lack of appetite. The diet was not faulty, the milk not excessive, nothing was given between meals, tonics had been used without effect. The history revealed that the child was allowed to spend two hours and sometimes longer at each meal, playing with his food. The child was put in a room by himself with his entire meal before him, and left there for twenty minutes, at the end of this time the mother was instructed to remove the tray and to give no food whatever for five and a half hours. No explanation was given to the child of what was going to happen. At the first meal, the child paid no attention to the food, and scarcely protested against its being removed at the end of twenty minutes, but at the next meal time he was ready to eat. His appetite has been good ever since, and he has gained weight steadily.

There remains for me to say a word about the place and value of tonics as aids in solving some of these problems of feeding in older children. It will follow from what has been said that before tonics are considered, it is necessary to go carefully into the entire history of the child's habits and mode of life generally as well as to make a careful and complete physical examination. When defects have been discovered and corrected, when faults in the diet and in the discipline have been given due attention, then, and not until then, may this question of tonics be considered as an aid to the various lines of treatment outlined above. Iron tonics such as the wine of the citrate of iron are useful where anaemia is a feature of the condition, while in other instances a minim or two of the tincture of nux vomica in a suitable

mixture given a short time before each meal, is very useful.

Such then, is a very sketchy outline indeed, of some of the problems with which we are confronted in dealing with the feeding of children past the age of infancy. The points to be especially emphasized are, that a complete physical examination is essential in every case, with an examination of the stool in some; that all discoverable defects or chronic infections

be given the necessary attention; that the diet be carefully regulated with regard to the amount and kind of food, the intervals between meals and the discipline, and that tonics are of value only as adjuncts to the methods of treatment outlined.

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SUGGESTION, ANCIENT AND MODERN*

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HAVING been invited to open the discussion this evening on Couéism, and suggestion in general, I have elected to begin at the beginning, with a brief review of the development of suggestion and susceptibility to suggestion.

No intelligent discussion of the treatment of disease by suggestion is possible without introducing the question of the production of disease by suggestion. Professor Charcot, whose authority on matters pertaining to hypnotism and suggestion is widely recognized, arrived at the conclusion that the hypnotic state was, in fact, a state of induced hysteria. His observations led him to believe that symptoms which could be relieved by suggestion might also be produced by suggestion. Furthermore, the healing art has, from the early ages, been so closely associated with mysticism, superstition, and religion that one is almost forced to make frequent references to the Scriptures, which will be quoted as purely historical records. If I were asked to designate a text for my sermon I should quote from a recent issue of *The New York Tribune*, as follows:—"To-day we have a new god. It is called the subconscious mind, and it is worshipped without being understood." Perhaps it is not a new god, only an old god wearing a new mantle.

So far as I know, there is no record of this so-

called new method of treatment, by suggestion, having been employed for the relief of, or prevention of suffering prior to the year 600,000 B.C.. In *An Outline of History* by H. G. Wells, under the caption, "Tradition Comes into the World," one reads as follows:—"All the mammals excepting the two genera we have named, had already before the lower Eocene age arrived at this stage of pre-adult dependence and imitation. They were all more or less imitative in youth and capable of a certain modicum of education; they all, as a part of their development, received a certain amount of care and example and even direction from their mother." No doubt, the parent suggested to the offspring, by gesture and example, how the pangs of cold and hunger might be alleviated or prevented. Suggestion stimulated to action, and repeated action resulted in habit. With the development of reason, the offspring began to suggest to himself as well as to his fellows. Thus suggestion and auto-suggestion, action and reaction have gone on developing and expanding through six hundred thousand years. Is it any wonder that the power of suggestion and the subconscious mind have attained the magnitude of a god, to be worshipped without being understood by the intellect of a single generation? Even allowing for a development of the human intellect, the genus man dates backwards to only some two hundred and fifty

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thousand years. Necessity is said to be the mother of invention. Demand is probably the father of supply, physiologically and psychologically, as well as economically.

About seven thousand years ago, men were living in groups, banded together, no doubt, partly for protection, and partly because man is, by nature, a social animal. This tribal life, the male dominating his immediate family, the female caring for her offspring, and the whole tribe dominated, no doubt, by the strongest male, laid the foundation for the complexes ascribed by Freud to the emotions of "father fear" and "mother love." Each tribe would, in time, reflect the personality of its chief, for as Emerson wrote, "Every great institution is but the lengthened shadow of a single man." Thus was tradition developed, which engenders fetishism, mysticism, and superstition. Superstition in turn paves the way for religion. To again quote H. G. Wells, "the history of man is a race between knowledge and catastrophe." The same might be said of the history of the treatment of the ills that man is heir to. The idea of supernatural power, vested in one or more gods, was gradually evolved. This idea, no doubt, stimulated the more thoughtful of men to observe and study the phenomena of nature. These men became known as priests and were in possession of the scientific knowledge of the times, including matters of health and well-being. Consequently, in early recorded history we find the art and science of healing, intimately associated with religion. Joseph, we are told, was a dreamer and an interpreter of dreams. No doubt, he was a practical psychologist and dealt occasionally with cases of anxiety neuroses. It is even possible that he may have given corrective advice to those who consulted him, and assured them that they might, day by day, become better and better.

In the early ages of civilization, religion, with all its components, including the art of healing, was taken seriously. Sound doctrines and laws, governing the welfare of body and soul, were promulgated by Moses, Gautama Buddha, Confucius, Jesus of Nazareth, and many others. In the chronicles of the life of Jesus Christ, it is frequently stated that He healed all sick who were brought before Him; nevertheless, it is interesting to note that, in

most instances where mention is made of specific cases, those cases are of a psychopathic or neurotic nature. Frequent reference is made to the casting out of devils. The functional nature of the case is indicated by a statement that the woman was possessed of a devil. It was sometimes a question of diagnosis, as in the case reported in the ninth chapter of the gospel according to St. Matthew, where Jesus said, "The maid is not dead, but sleeping," then he took her hand and she arose. Again there is the case of the leper who was healed, as Jesus descended after the sermon on the mount. You are all aware that there are different forms of leprosy and different stages in the pathological development of the disease. You are also aware that there are neurotics and hypochondriacs. In the light of our present knowledge, most of the cases of miraculous healing will bear scrutiny without detracting from their right to commemoration. Faith was the key-note of healing as practiced by Jesus Christ and His disciples. The restoration of sight to two blind men described by St. Matthew is a fair example. "Jesus said, believe ye that I am able to do this? Yea Lord. Then he touched their eyes saying, according to your faith be it unto you." No doubt, the degree and duration of the restoration, was in proportion to the degree and duration of faith of the afflicted. These events took place before the introduction of modern "follow-up" records. It is worthy of note that it was customary to utilize faith in conjunction with certain ritual performances, such as the laying on of hands, or anointing with oils, a very commendable procedure, deplorably neglected by many of our profession, and used successfully by certain irregular practitioners, sometimes to the discredit of the licensed medical profession. The demand for this combined form of treatment is to-day as great, if not actually greater, than it was in the life time of St. Paul. During the last half century, coincident with enormous advances in commerce, science, and education generally, one notes with apprehension the passing of the good old family doctor, the rapid development of the specialist, and a tendency to divorce the art from the science of medicine, at the expense of the practiced art. *Post hoc*, or *propter hoc*, one sees a mushroom growth of

cults and devices clothed in divers raiments ministering unto the believers, dispensing hope, and sometimes comfort, in return for faith, and certain monetary considerations. In my opinion it is the old story of demand calling vainly upon the orthodox until at last supplied by the unorthodox.

Honest treatment by means of suggestion is not fraud, but, unfortunately, it may be easily contaminated with fraud. The profession today looks askance at one of its members who employs suggestion extensively in his practice. If in the process of development of the ultra-scientific specialization of the practice of medicine, the ancient art be neglected and forgotten, one might imagine that a few generations hence the scope of the fully qualified, licensed physician might become so contracted and the field of the irregular practitioner and vendor of nostrums so expanded, that the ninety and nine might be found in the fold of the so-called irregular, leaving one in the fold of the recognized physician.

The psycho-neurotic is with us and will be with us. He may be found in every walk of

life, both on and off the stage. Many of his traits are recognized, and capitalized in fiction. George Bernard Shaw has recognized and graphically portrayed him. Yet he is little more understood than in the days when Shakespeare drafted the characters for the story of Hamlet. He may be just the common pessimist, obliged to run his race through life handicapped by an irritating psychic hobble; or he may be the terror-stricken victim of a more or less complete emotional disorientation, groping blindly for a means of escape from an apparently boundless dungeon of despair and mental suffering. What he needs is confidence, then self-confidence, and a guiding hand in the reorganization of his disorganized emotions.

As long as this god, the subconscious mind, new or old, continues to be worshipped without being understood, so long will there be priests to tend his altars. Whenever the supply of priests, recruited from within the ranks of the profession, fails to satisfy the public demand, the necessary complement will continue to be supplied from without the ranks, forever and forever, unto the end of time.

Bladder Regurgitation Causes Ascending Infections of Urinary Tract.—Because of its bearing on ascending types of renal infections, regurgitation of vesical contents was made the subject of a special study by Graves and Davidoff. The occurrence of regurgitation was first studied in seventy-three normal rabbits, the bladders of which were slowly filled with warm physiologic solution of sodium chlorid. The phenomenon was observed in 73.7 per cent. of these cases. In this series attention was particularly concentrated on the relation of the bladder to reflux. In a second group of animals, the ureters had been rendered abnormal by previous operative procedures. Regurgitation was produced in 78.7 per cent. of the attempts. Several animals were subjected to complete urinary obstruction for the purpose of producing regurgitation as a result of prolonged retention. In a final series reflux was studied in the intact animal, and the phenomenon was witnessed through the fluoroscope in six of

eleven experiments. On the basis of this work the authors believe that bladder regurgitation may be accountable for ascending infections of the urinary tract, particularly in cases of vesical neck obstruction.—*Jour. Urology*, Sept., 1923.

Choice of Digitalis Preparations.—In a report issued by the German Council on Pharmacy and Chemistry on dependable preparations of digitalis, seventeen were analyzed, as also eleven other heart stimulants not containing digitalis. The final verdict lists twelve proprietary preparations, but pulverized digitalis leaves heads the list as the preferable means for administering digitalis, especially in the convenient pill form (0.5 or 1 gm.). Strophanthin is the only heart tonic endorsed outside of digitalis. The infusion of digitalis is denounced as it irritates the stomach, is not durable, and requires nearly double the dose of the leaves.

CONDITIONS IN CANADA IN THE COMBAT AGAINST
TUBERCULOSIS

An address delivered before the Mississippi Valley League of Anti-Tuberculosis Societies at their annual banquet, Evansville, Ind., Oct. 9th, 1923.

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Ottawa

IN Canada we have no organizations such as yours, with their State subsidiaries and county and municipal offshoots. The Canadian Tuberculosis Association does not receive any financial support from the non-Dominion-wide organizations. We lend aid in every possible way but accept no financial assistance from local fields, leaving these absolutely intact as a resource from which the local requirements may be obtained. Our organizations are therefore not bound together by any joint annual effort to obtain money. This may be detrimental, but every unit in Canada is entirely autonomous.

Sanatorium Centres and Efforts.—Most of our counties could not support a 100-bed sanatorium. We do not favour the creation of units smaller than this. It seems too great an overhead charge to provide an efficient resident medical staff, laboratories and x-ray services for smaller units. The tendency in Canada outside of Ontario is toward Government ownership, or at least backing; preferably administration by a lay commission, non-elective, partly appointed by the Government and partly by any other representative means. This grants us civilian administration free from political influence. It assures upkeep and first class equipment both as to medical and nursing personnel, as well as technical appliances. It insures public interest and approval. In Manitoba the sanatorium is assisted but not owned by the provincial Government, and somewhat the same relation subsists in Saskatchewan. In British Columbia and Nova Scotia they are under direct Government control, and in New Brunswick and in Alberta they soon will be. Quebec institutions are for the most part administered for the Government by Church Sisters and very efficiently too.

Official Agencies vs. Voluntary.—An efficient

city health department with an active division of tuberculosis for co-ordinating nursing effort and the follow-up work of contacts in schools, homes and in industry and the collection by attendance at clinics of all facts pertaining to suspects, and to those requiring assistance in their homes, appears to me the best plan. Toronto has this and gets every case under treatment, even paying six institutions outside of Toronto for upkeep of its cases. Seven clinics are operated, and over 100 nurses are employed in school and other public health work. The follow-up is splendid. Their corrected death rate from tuberculosis for 1922 was a little over 40 per 100,000 living.

Hamilton, fifty miles away, obtains just as low a death rate through the operation of a splendid health association, which operates and supports over 350 beds. This city has a population over 120,000 and a death rate from tuberculosis in 1922 very similar to Toronto. Tuberculosis work as a hobby surpasses everything else in popularity, in Hamilton. Four hundred of its leading citizens from all callings of life sat down at dinner for their annual meeting last spring.

We have reported to us in Canada, over 50 clinics in operation for diseases of the chest, outside of the institutions for treatment. We have two schemes for increasing these. The Provincial Red Cross Society of Ontario made us a grant to pay the travelling expenses and cost of attendance for the medical experts of eight Ontario sanatoria to two municipalities in their several neighbourhoods, employing public health nurses. They proceed to the municipalities periodically and examine all cases referred through the practising physicians or the medical officer of health, who is usually the doctor for indigents.

Three provinces have travelling diagnos-

ticians. Two are making provision to secure a similar service. Our association is planning to encourage financially this arrangement in every province by a grant of \$5,000 for three years' service of men who are to do field work only, and who will be paid at least \$3,500 a year and expenses.

Quebec province plans to open eight child welfare and anti-tuberculosis dispensaries at an annual cost each of \$12,500.

We have had a survey made by a provincial royal commission in Saskatchewan of school age children, white and Indian. Its findings were very instructive. We therefore offered \$1,000 to each of the other provinces towards the cost of a similar undertaking. The funds used were furnished by the Canadian Red Cross Society. British Columbia, Quebec and Ontario have completed the work. A fourth one is to be done in Grand Mere, P.Q. Manitoba and Alberta are applying for the privilege, and Nova Scotia and New Brunswick may follow. It is not that we expect to find or establish new facts for the profession at large, but we hope to get the minds of the people of each province centered on the findings revealed in such a survey and thus stimulate interest and assistance.

A five-year demonstration is being arranged at Three Rivers, P.Q., a city with a population of 25,000. The cost will be \$31,000 annually, exclusive of charges for treatment of disease. The health centre is now nearly completed with an x-ray equipment, laboratory and other appointments in keeping. It is entirely controlled by the Provincial Board of Health. Our association has arranged for half of the annual cost. The energetic support being granted to the work by the clergy, leading citizens and industrial organizations assures success from the start.

Facilities for Treatment.—We have in Canada to-day over 4,000 sanatorium beds for the tuberculous, or 4.6 per 10,000 people. They are distributed by provinces, as follows:—

Prince Edward Island...	0	
Quebec.....		} less than 4.6
Saskatchewan.....		
Alberta.....		
British Columbia.....		
Nova Scotia.....	5.6	
Ontario.....		} over 6 beds per 10,000 people
Manitoba.....		
New Brunswick.....		

Increased accommodation is under way in four provinces now.

We have beds in sanatoria for tuberculous children reported as follows:—

New Brunswick	1 in every 12 beds
Quebec	1 " " 8.4 "
Ontario	1 " " 5.7 "
Saskatchewan	1 " " 4.2 "

Costs.—Our president, Dr. C. D. Parfitt, estimates the capital cost to date is \$10,000,000. Last year, I believe, we spent \$5,000,000 on treatment. I know of \$3,000,000 spent for treatment in public ward beds. Over \$1,000,000 came from eight provincial treasuries for assistance in the cost of 800,000 hospital days in 3,659 sanatorium beds. The average cost per diem was \$3.00.

The cost of treatment to date for our ex-soldiers amounted to \$3,500,000 for capital expenditure and \$7,700,000 for treatment of 10,240 patients. About 1,500 died while on charge, 7,500 were discharged as cured and 1,000 are still on strength. We spent \$900,000 on vocational training; one-quarter for training, three-quarters for pay and allowances. We have already paid \$14,000,000 to tuberculous pensioners, not including payments to dependents of deceased tuberculous soldiers. We have 5,000 pensioners now classified in the tuberculous group.

We hope to assemble \$50,000 for research work for a ten-year period, one of three universities contributing a like amount to the scheme. Our first and only contact for this financial assistance has been anything but discouraging.

Results.—We had in Canada 7,559 deaths from tuberculosis in the nine provinces during 1922, or a rate of 84.4 per 100,000 living. The rates by provinces are from Atlantic to Pacific:—

Prince Edward Island	127
Nova Scotia	132
New Brunswick	107
Quebec	122
Ontario	66
Manitoba	60
Saskatchewan	44
Alberta	51
British Columbia	74

We are quite active in our own way. Our Governments are all appreciative. We are very interested observers of your efforts and results. We have Prof. Dreyer's Antigen, obtained from defatted tubercle bacilli, and it is being tried out in several centres, thanks to the initiative of the Connaught Anti-Toxin Laboratories of the University of Toronto.

I extend to you the greetings of the Canadian Tuberculosis Association and my sincere thanks for the privilege of addressing you.

THE OCULAR MALINGERER*

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THE frequency of malingering varies in different countries, and, in any country, it bears a pretty direct ratio to the liberality of its compensation laws and industrial insurance acts. As a rule the beneficiaries of these acts feel that they are not liberally dealt with in matters of compensation, and in many cases, they are prone to make as much as possible of any accident or disability be it ever so trivial, and to exaggerate symptoms or even manufacture them.

It may be that a person had an amblyopic eye preceding an injury, as, from difference in refractive condition of the two eyes and failure to develop binocular vision, or from disease. It is also possible that he was unaware of this amblyopia prior to his accident, and in such case, he most certainly is likely to attribute the condition to his accident. If he were unaware of his amblyopia prior to his accident, he, of course, cannot be classified as a malingerer, as he is merely labouring under a misapprehension of what his eye condition really was previous to his accident.

The chief objects of malingering are: (1) To secure damages; (2) To obtain pensions and insurance compensations; (3) To avoid military duty; (4) To gain admittance to a charitable institution; (5) To secure alms; (6) Children sometimes pretend defective vision to avoid school duties. Children living in rural parts have been known to gratify their desire to see the city by declaring defect of vision, thereby securing a trip to the city to see a specialist.

The type of malingering may assume any of the following forms: (1) Simulation of total blindness; (2) of monocular blindness; (3) of an exaggeration of diminished vision; (4) of diminished vision where none exists; (5) of paralyzed muscles of eye or eyelids; (6) of an inability to use the eye on account of weakness,

photophobia, dizziness, dazzling, spasm of eyelids, etc.; (7) of contraction of the visual field, and scotomata.

We are led to suspect simulation by the lack of agreement between the results of the functional testing and of the objective examinations, or, the individual functions give contrary results, inasmuch as the visual acuity, the field of vision, the color sense, etc., do not stand in right relation with each other, and with the result of the objective examination.

In making the examination, it is fortunate if we can impart to the person being examined the impression that he has our sympathy in his trouble, rather than have him harbour the impression that he is being examined by one who does not believe his statements, and is endeavouring to trap him. This is much easier of accomplishment with the person who is referred to the oculist for special examination and report for the first time, than with him who has already been referred by a defending company or party to several oculists, as his previous experience may have excited his suspicion, and developed his ability in being on his guard.

The procedure should consist of a thorough examination of the eyes externally and with the ophthalmoscope. His refraction should be accurately estimated, and most of the tests should be made with the person wearing the correction of any refractive error he may possess.

The objective tests of blindness depend mainly upon two points: (1) Reaction of the pupil; (2) Direction of the visual axis. In testing the reaction of the pupil by ordinary diffuse daylight, have the person directly facing the window, and have him gaze at a distant object while he holds his hand across the eye that is not being examined, in order to exclude the light therefrom. Note the size of the pupil in the eye that is being tested, and then exclude the light therefrom by holding a hand across

*Read before the Eye, Ear, Nose and Throat Section at the Annual Meeting of the Canadian Medical Association, Montreal, June, 1923.

it for five or six seconds. On removing your hand, in the case of the light reflex being normal, you will find that the pupil has enlarged considerably. The enlargement or dilatation remains about half a second, and then is followed by a very decided contraction, according to the intensity of the illumination. This contraction is followed by a dilatation, and that by a still more moderate contraction, until at last the pupil becomes stationary in a condition of more or less moderate contraction. By the rapidity and amplitude of these pupillary excursions one decides as to whether the light reflex is normal or abnormal.

Reaction of the pupil to light may not take place even when sight exists, as when synechiae are present, or in paralytic mydriasis. The pupils should be very thoroughly examined for posterior synechiae, and if necessary, a mydriatic used to establish their condition. If the patient has a dilated pupil when first seen, it may have been artificially produced by a mydriatic. Usually such cases may be detected by the mydriasis, as a rule, being nearly or quite *ad maximum*, in contra distinction to the more moderate mydriasis generally present in the genuinely blind eye. Shrewd malingerers often use a weak solution of the drug, or delay their appearance for examination until the pupillary dilatation has somewhat subsided. Dilatation of the pupil being an almost constant result in amaurosis, the absence of this symptom is exceedingly significant. Also, contraction of the pupil to light, or consensual reaction (i.e. reaction of the pupil of the other eye when the light is applied to the alleged blind one) forms strong ground for suspecting simulation.

There are rare cases, however, in which, in the presence of actual blindness, the pupillary reflex for light is still maintained. Such are:

(1) When the lesion is situated high up in the optic pathway above where the fibres of the reflex are branch off to the centre for the pupillary movements.

(2) When the lesion is in the visual area in the occipital cortex. The lesion in both cases would need to be bilateral, otherwise, hemianopsia, and not total blindness of an eye would result. This is therefore very rare. It may occur in uraemia, but is temporary, or other severe symptoms develop.

(3) Sometimes blindness may be present in disease of the optic nerve itself, and still have light reflex of the pupil. This can be explained only on the hypothesis that the fibres for the conduction of the light reflex are more resistant than those conveying visual impressions.

(4) Sometimes in retinal degeneration and blindness a very slow reaction to light takes place (Leber), the pupil dilating very gradually in the dark, and contracting very gradually again on return to light, and this in the absence of light perception.

The absence of the physiological stimulus of binocular fixation of vision allows a blind, or partially blind eye, to assume the anatomical position of rest, which is upward and outward, and we find in the case of an eye that is partially or totally blind, that it generally fails to maintain proper fixation. When, therefore, perfect parallelism exists under all conditions, it is good evidence of the presence of sight, and of sight sufficiently good to produce single binocular vision.

Additional tests of simulation of bilateral amaurosis:

Schmidt-Rimpler test.—The examiner directs the patient to look at his own hand. A malingerer, especially if ignorant, will now and then purposely look elsewhere than at his hand, whereas, a person blind for either a short or a long time, experiences no difficulty whatever in fixing either of his hands with his visual axes.

Burghardt's test.—This is a modification of the Schmidt-Rimpler test, the person being requested to put out the forefinger of one hand, and then touch the tip of it with the forefinger of the other hand. People actually blind experience no difficulty in doing this, but the malingerer is unlikely to accomplish it.

Attitude Test.—The amaurotic person has a staring, fixed, unmeaning look of the eyes, which is very soon acquired by those who are really blind, and which is familiar to the oculist.

Of some importance also is the short stepping of the really blind, together with the upward turning of the face, and a generally "listening" expression. Threatening movements towards the person will occasionally throw him off his guard, care being taken to make no noise, or set current of air in motion, as these often alarm persons truly blind. Sometimes an individual's ability to see has been elicited by suddenly bringing a live mouse before his face. Observation of these cases, when they are unaware that they are being observed, often reveals undoubted evidence of their ability to see.

Detection of malingering of monocular blindness.

Harlan's test.—Place a pair of trial frames on the patient. Before the seeing eye place a 10 dioptré convex lens. Have patient read while both eyes are open; if he succeeds, it is with the eye he claimed to be defective, and his answer indicates approximately the degree of his visual acuity.

Prism and Maddox rod test.—Begin by covering the supposed blind eye, and by placing the prism so that it only partially covers the pupil, show him that he can see two lights with the one eye only. Then expose both eyes and introduce the Maddox rod. If he see both the red streak and the light, he must be seeing with both eyes.

Double prism test.—Place double prism with bases together in such a way as to produce monocular diplopia. If he see three lights he is seeing with the alleged blind eye.

Cuignet test.—A lighted candle is brought before the good eye, and is slowly carried towards the blind eye. Patient is detected if he still declares he sees the candle when it has reached a position where it is concealed from the sound eye by the nose.

Bar-reading test.—Direct the person to read from a book, holding quite still both the head and the book. Insert a pencil or narrow ruler vertically between the eyes and the book. If he continue to read uninterruptedly, he is undoubtedly seeing with both eyes, because, did he not see with one eye, such letters as were quite invisible to the other (on account of the pencil intervening between that other eye and those letters), he could not read them. Words unrelated in sense are best for this test, as there is less likelihood of the obstructed words being guessed.

Alfred Graefe test.—Have the person hold the professedly bad eye closed. Then set before the sound eye a prism in such a position that the thick edge thereof extends horizontally across the pupil. The person, of course, sees double, a fact that he will readily admit, because, so far, the professedly unseeing eye has not been called in question. Then have him uncover the "unseeing" eye, the examiner at the same time moving the prism so that it completely covers the pupil. If he still see double, he is seeing with the alleged blind eye. This test has an especial advantage in that, unknown to the person the visual acuity of each eye can be accurately estimated. This is accomplished by having him read first one, and then the other of the twin images.

In simpler form this test may be carried out by placing a 10 dioptre prism before the sound eye. If he admit seeing double he is seeing with both eyes. Here, however, when the alleged blind eye is manifestly under examination he will not invariably confess to seeing double.

Crossed diplopia test.—Place a prism (8 or 10 dioptre) before the alleged blind eye. If that is a seeing eye it will make an excursion inward, involuntarily, for the sake of single vision.

Vieuses test.—On a plain stereoscopic card are placed two wafers of different colours, one red for instance, and the other blue, at a distance in the case of each wafer of $\frac{1}{2}$ cm. from a vertical line dividing the card in halves. When so small a distance separates the wafers, viz 1 cm., the wafer on the right side of the card appears to be on the left, and the wafer which is on the left side of the card appears to be on the right. The card is placed in a stereoscope, and the person requested to look at the card through the instrument. If he admit that he sees both wafers, then of course he is seeing with both eyes. If, on the other hand, he confess to seeing one wafer only, he is asked to state the colour of that wafer. He will almost certainly, if malingering, name the colour of the wafer which appears to be on the side of the sound eye, which unmasks him, as this is the one that would be seen by the alleged blind eye.

Perhaps a better way is to have a horizontal line on one of the halves of the card, a vertical line on the other, these lines occupying such positions that when seen through a stereoscope by a pair of sound eyes, they form a cross. If, then, a person really blind in one eye looks at this card through the instrument, he will see either the horizontal line only, or else the vertical line only. If he admit seeing a cross he is malingering.

Test with 6 dioptre convex spherical lens.—The normal eye is rendered myopic with the 6 dioptre convex spherical lens placed before it. The test type is placed very close to the eyes and the patient requested to read. Gradually move the test card away from the eyes until it is beyond the focus of the seeing eye. If the person continues to read, he is reading with the alleged blind eye, and the degree of vision is approximately measured thereby.

Test with colored letters.—The transparent coloured letters (red and green) alternating, and on black background, are much used in this test. With the red glass placed before the sound eye, if he be then able to read the green letters, he must be seeing with the eye supposed to be blind, as the green letters are not transmitted through the red glass, green being the complementary colour of red.

Letters are written on white paper with a black and a red pencil alternately. The person is told to read the letters rapidly while a red glass is placed before the sound eye. If he read the whole of the letters, it is proof that he is able to read with the eye he claims to be blind, for the sound eye, looking through the red glass, cannot see the red letters, since these now offer no contrast to the background which also appears red. The acuity of vision in the supposed blind eye can also be estimated by this test.

Detection of simulation of bilateral amblyopia.—It is always ground for suspicion when the person in reading aloud the test type, declares that he can read no further, although, thus far, he has made no mistake in identifying all the letters. A truly honest reader will almost invariably miscall the most difficult letters (for instance B or S) in one line, before declaring his inability to read any of the letters of the next. Again, if he miscall only certain letters in a line and these are the easiest letters in that line (for instance T and L), this is ground for some suspicion.

Repeated tests made with test cards ending with lines of different sized type on different days or occasions of testing (as Snellen 40 on one occasion, Snellen 20 or 10 on another), will now and then suffice to expose the simulation of bilateral amblyopia, the malingerer believing that on each occasion, he should, to be consistent, leave off reading at exactly the same number of lines from the bottom of the card.

Unsuspected observation from a neighbouring apartment is sometimes resorted to, and occasionally from such a coign of vantage, the person will be observed to take up books and papers and examine them critically.

In simulated amblyopia, the presence or absence of mydriasis, and the presence or absence of the pupillary light reflex, are, of course, very much less to be depended upon as tests for malingering than in cases of simulated amaurosis. In fact, simulated, bilateral, moderate amblyopia is the most difficult variety of important ocular malingering to expose.

Mirror test.—If the person is pretending to have only a slight defect of vision, the test with the mirror in one of the various ways is of value. Use a chart with letters like H or O, which appear the same both ways, or two charts, one with reverse letters. Place the person midway between a mirror and a chart at which he looks, then have him read the smallest he can. Now have him turn halfway round and read them in the mirror. The distance by the mirror is three times as great and his visual acuity is measured accordingly.

Tests for the simulation of the concentric contraction of the visual field, and scotomata.—This form of simulation is rare. Feigning concentric contraction of the visual field is more common than feigning scotomata, and generally the contraction feigned is of high degree, as moderate contraction would not constitute good ground for heavy damages. The person should be examined on various days, and the separate results written down and carefully compared. By taking the size of the field as

a whole, and also the size of the various scotomata - different distances, almost any malingerer can be exposed.

Tests for the simulation of weakness and fatigue of vision.—As genuine symptoms, weakness and fatigue are almost always due to errors of refraction, to paresis or paralysis of the ciliary muscles, to various affections of the extrinsic muscles, to or neurasthenia or hysteria. The physical signs of these various disorders will be present. Sometimes rapid exhaustion of the eyes does really occur as an isolated symptom, and then the question of malingering or no malingering is very difficult to answer. Repeated testing is unlikely to develop much.

Actual detective work in such cases is sometimes valuable, and at times such persons have been found to spend a considerable number of hours in writing and reading. Such a person may at times, for an attractive wage, consent to copy fine print for many hours daily or nightly, especially if he believe that he will not be subject to damaging observation.

Though much apparatus has been devised to detect the malingerer, much of it ingenious, and some of it complicated, the tests herein referred to have been confined to those that may be carried out with the equipment that is common to every oculist's office.

INJURIES TO THE EYES FROM BROKEN GLASSES

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Edmonton

INJURIES, or at least severe injuries, to the eyes from broken spectacles or eyeglasses are fortunately of very rare occurrence, although it is possible many minor injuries of this nature are never placed on record. In 1914, Hans Lauber reckoned the frequency of this form of injury as one in thirty thousand patients. Some writers incline to a very much lower figure.

I consider that minor injuries to the eyelids from broken glasses are fairly common; that injuries to the eyeball itself, while much less frequent than injuries to the lids, are nevertheless more common than a perusal of the journals devoted to ophthalmology would lead one to suppose. The reason of this is that in the great majority of cases they are slight superficial wounds of the cornea and sclera, and are treated by the general practitioner, or if they go to the outdoor department of a general hospital are treated by the house surgeon on duty in the out-door department, and recover so quickly that they never come under the care of an eye specialist; the slight injury to the eye being often cloaked under a more obvious injury to the lids and face, many of these cases being the results of assaults or brawls.

The first case of this nature that came under my observation was in 1909 when acting as assistant to Mr. Stephen Mayou at the Central London Ophthalmic Hospital. A bicyclist wearing spectacles crashed into a cart that

came to an unexpected stop while he was riding behind it. One eye was so severely lacerated by a fragment of his broken spectacles that it had to be removed.

One day early in December, 1915, while prescribing glasses for a little boy, the mother asked me, as mothers often do, if there was not danger to the child's eyes from the spectacles getting broken. I replied that I had never seen a case of a child getting injured in that way. By a curious coincidence, before the end of that month three cases of injury to the eyes by broken glasses came under my care, and one of the cases was that of a child. In the last eleven years in Montreal I have had only eight cases of injury to the eye from broken glasses. In only one case was the injury so severe that the eyeball had to be removed.

In two cases the eyeball was so severely damaged that an operation for prolapse of iris had to be performed, but in each case vision equal to one-half of normal was finally obtained.

In two cases the injury was severe, but the eyeball was not penetrated, and normal sight was obtained.

In three cases the injury was not dangerous. In the case of the child the injury was received while trying to spin a top.

In two cases the injury was received in a fight, and one of these lost his eye which had to be removed.

One case was due to the bursting of an emery wheel.

Three cases were due to accidental blows from hands or instruments held in the hand.

One case was due to a large flying particle of metal.

It is worth noting that in five of these eight cases defective vision was present.

The child had strabismus with moderate hyperopia.

One case had an amblyopic eye, and was severely injured in his good eye, losing the lens.

One case had high myopia.

In one case the injury was to an eye which already had defective vision, due to a previous injury.

One case had moderate myopia.

With regard to the question whether there is more risk of accident from spectacles or eyeglasses; in these eight cases, four were wearing spectacles, and four were wearing eyeglasses.

The child, and three of the severe cases were wearing spectacles; one of these was hurt by a bursting emery wheel; one was injured in a fight; one was accidentally struck by a shovel in the hand of a fellow workman. In these last two cases if they had been wearing eyeglasses instead of spectacles they might have been better off, as when struck, eyeglasses are much more easily dislodged than spectacles.

The two following incidents show the difference often resulting from receiving blows on spectacles or eyeglasses. While crossing Westmount Park some years ago, while wearing eyeglasses, I heard a shout, and looked up just in time to receive a baseball coming with great force on its first bounce; it struck the outer tip of my eyeglasses, and the outer end of the upper orbital ridge. Owing to the give of the glasses they were torn off and thrown some feet but not broken. If I had been wearing rigid spectacles, I would probably have received a very severe injury, possibly even losing the eye.

On a camping trip, while smashing wood with an axe while wearing spectacles, a piece flew up and struck the outer edge of the spectacles a severe blow. The side struck fortunately broke off at the nose piece, and I picked up the shattered fragments, and the side piece two or three feet behind me. The nose piece and unbroken glass remained in position.

Injuries, and severe ones at that, are frequent to people breaking wood in this fashion, namely smashing a long thin piece in the centre.

Eyeglasses are probably safer than spectacles, but are not suitable in the case of children.

Accidents to children's eyes from broken glasses are very rare; and even in children glasses would often act as a protection. In the last three cases in which I have had to remove a child's eye following an injury, wearing glasses might have saved the eye in each case. In two cases the eye was injured by a fire-cracker, and in the other by a splinter of glass from a broken window.

In adults, where this type of injury is received, the eye would often have been injured even if the person had not been wearing glasses. In the case above, due to the bursting of an emery wheel, the glasses undoubtedly saved the eye from being lost altogether.

In the case of adults working as machinists glasses are a great protection; and we frequently see their glasses with a rough surface from the number of foreign particles that have struck the glass. For those working on emery wheels they are indispensable, and it is against the law to work on an emery wheel without a pair of protective goggles.

In the case of the ordinary person glasses frequently save the eye from foreign particles getting in the eye, while travelling by train, or even walking the streets. The rapidity with which the lids close before a threatened damage is remarkable when one considers that the warning message has to be carried by the visual path back to the brain, and then relayed over to the motor centre, and carried back to the muscles of the lids. The momentary resistance offered by glasses to even a severe blow as from flying metal, gives the lids a precious opportunity, which they are quick to seize, to shut tight, and try and ward off the threatened danger at their own expense from the eyes which they so faithfully guard. By wearing glasses, a person runs no extra risk to his eyes, if anything he has added an outer line of defence which must be broken or circumvented, before his eye can be injured; a line of defence which wards off many an injury to those exposed to this type of injury.

MULTIPLE MYELOMA

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MY excuse for presenting a paper on this subject at the present time is, first, because there is such a meagre mention of this condition, either in the ordinary medical literature, or in the journals on radiology, and also the nearly complete absence of any mention of the radiographic appearance. Second, because of the fact that I had a case recently in which the symptoms did not conform very closely to those usually ascribed to the disease, and in which the diagnosis was first made by the radiographic appearance, and later confirmed by autopsy.

Probably the most comprehensive definition of this disease is that given by Ewing in his book "Neoplastic Tumours," where he defines "multiple myeloma" as "a specific malignant tumour of the bone marrow, arising probably from a single cell type, characterized by multiple foci of origin, a uniform structure composed of plasma cells, has a fatal termination, rarely gives rise to metastases." McCallum believes that this disease is a systemic infection of the marrow cells since it occurs simultaneously in many different bones and nowhere else.

In 1847, Henry Bence-Jones reported having found in the urine of a patient with osteomalacia, a peculiar form of protein, which was characterized by its behaviour towards nitric acid, and which has since been known as Bence-Jones protein. Ewing gives McIntyre the credit for first describing this disease in 1850, under the term "Mollities ossium." He also reported finding Bence-Jones protein in the urine. Rustizky in 1873 recognized this disease as a specific infection of the bone marrow, and classified it as a "myeloma." In 1889 Kahler described a case with Bence-Jones protein which was diagnosed as osteomalacia, but at autopsy proved to be multiple myeloma. Kahler suggested that the Bence-Jones reaction might be diagnostic of myeloma.

According to Miller and Baetjer 80% of

patients with myeloma have Bence-Jones protein, but it has also been found in many other conditions, such as leukemia, nephritis, myxedema, carcinoma, etc., so that it is not pathognomonic. Also, the idea has been expressed that, anatomically speaking, a myeloid tumour is not malignant, but it must be admitted that because of its incurable nature, it should be classed with the malignant diseases. Stewart in 1922, states that although no authentic cases of metastasis have been reported, the local malignancy of these tumours is so great that there can be no question as to their neoplastic nature, but he suggests that as they appear to arise from the osteoclasts, these tumours should be termed osteoclast sarcoma.

Multiple myeloma would appear to be a rare disease, as Woods in 1905 could only find 30 cases reported in the literature, and in 1920, barely 100 cases had been reported.

The pathological basis of this rare disease is the formation in the bone marrow of numerous masses which destroy the bones, and often penetrate the surrounding tissues, without, however, destroying them. The etiology of the disease is as yet quite obscure. Some authors hold that it is an indirect sequel of an infectious process. Others hold that it arises as the result of a trauma. In support of this theory "Oftedal" in the *J. A. M. A.* of 1921, reports the case of a farmer, age 41 years. His trouble dated from a trauma received when he was struck over the right chest with a fence rail. After about one year's time he developed multiple myeloma, which the writer believed was due to the trauma.

The disease occurs most frequently in males of from 20 to 60 years of age, and usually terminates fatally in from 6 to 18 months.

According to Ewing the ribs and sternum are the most common seats of the growths, while the vertebrae, skull, femur, and humerus are less frequently involved. Winkler observed in one case 28 separate tumours in the skull,

while Hoffman reports three cases where the primary growths were in the ilium. The tumours form small multiple nodules varying in size from that of a bean to an orange, although occasionally no circumscribed tumours are present, but rather a diffuse infiltration. These multiple tumours begin in the marrow of the bones, and are grey, greyish red or yellowish red in colour. As they grow the bone tissue is absorbed, sometimes very rapidly, and as a result multiple perforations or spontaneous fractures occur. The surrounding tissues often become diffusely invaded.

Clinically, there are rheumatic pains in the back, trunk, and extremities. The first symptom is usually pain in an individual bone, due to an erosion of the periosteum, or a general toxæmia. There may be periodical recurring attacks of slight pain described as "colicky" or the pain may be continuous in nature. Recurring fever is sometimes observed, but usually the temperature is subnormal. As the disease progresses there is a rapid loss of weight and strength, with anaemia which is sometimes quite severe. The termination is usually marked by diarrhoea, dyspnoea, paralysis, and coma.

From the standpoint of diagnosis by means of the x-ray, if no visible bone change has taken place, the radiographic examination will of course be of no assistance, but in the majority of cases pathological condition of the bone is present, and if so, is usually of value in making a diagnosis. The differential diagnosis will usually lie between osteomalacia, sarcoma, carcinoma, and myeloma. First; osteomalacia never attacks the cranial bones, whereas myeloma very frequently does. Second; osteomalacia presents diffuse absorption of the calcium salts, whereas myeloma presents numerous circular areas of rarefaction of small size. Third; in osteomalacia owing to the absorption of the calcium salts, there is a pliability and a consequent change in the shape of the long bones, whereas in myeloma the contour is well preserved, but there is a tendency to spontaneous fractures. Primary carcinoma is never found in bone, so that as a general proposition, if a primary growth cannot be found, the probability is that the bone tumour is not carcinoma. Differentiation of secondary carcinoma, sarcoma, and myeloma is often difficult or impossible by the x-ray alone. A. B.

Moore of the Mayo Clinic, stated recently, "that in their experience, the bony metastasis of all types of malignancy gave the same x-ray appearance," thus emphasizing the fallacy of attempting a cellular diagnosis by the x-ray alone, and Isaak gives it as his belief that it is impossible to differentiate myeloma from secondary tumours of the bone marrow. Assman points out that the bone defects in cases of multiple myeloma are apparently better circumscribed than in cancer metastasis, but that in many cases a definite differentiation by the x-ray alone is impossible. In cancer metastasis the process is usually less extensive, more diffuse, and is located near the nutrient artery to the bone.

The following case exhibits several rather unusual features:—

A boy, 12 years of age, weighing 70 pounds, was admitted to the hospital on July 13th, complaining of pain over lower maxilla, inability to open jaws freely, stiffness of neck and headache. His temperature was 102° F.; his pulse was 116; respirations 20.

Up until 2 months previously patient had been quite healthy, when he began to complain of pain and stiffness of the neck; now he holds the head rigid on walking. On July 19th, he complained of pain in left shoulder and arm, but no tenderness on pressure. On July 27th discharged from hospital, pain in arm less severe.

Re-admitted August 2nd, pain in arm much worse. Temperature 101° F., pulse 100, respirations 26. X-ray of shoulder, spine, and chest negative, but plates of right side of head showed numerous discrete areas of rarefaction about one half an inch in diameter in the right parietal bone. August 21st.—Pain has been absent for 2 or 3 days. Patient quite drowsy. Tumours can be made out on right side of head, and x-ray shows considerable extension of the diseased areas in the right parietal bone, and also involvement of the left parietal. On August 31st complained of pain in right shoulder. X-ray showed considerable bone destruction in the shaft below the epiphyseal line. September 11th x-ray showed a large tumour in the mediastinum. Bone destruction of both sides of the skull and the right humerus, but the left quite normal. Patient had continuous pain in shoulder and head. A troublesome

cough developed, with weakness and drowsiness. He gradually became weaker, and died on September 26th.

Temperature while in hospital varied from 99° to 103°, with daily remissions; pulse from 100 to 150.

Autopsy findings.—On removing the sternum the mediastinal space is seen to be filled by a large, firm, fleshy-looking tumour, which is encapsulated: appears to press on the praecordium and partially surrounds the trachea. The surface of the left lung is covered with small white nodules. Scattered throughout the lung are numerous nodules varying in size from a few mms. to 2½ cms.

On the right side of the head are two large tumour masses which have eroded the scalp. On removing the scalp these masses appear to project through the skull, and numerous smaller masses are present beneath the bone.

The base of the sphenoid and the petrous portion of the left temporal are much eroded by tumour growths.

Histological examination.—The mediastinal tissue consists of a fine reticulum, containing a few small blood vessels, and a collection of round cells, a great many of which appear to be of the plasma cell type. The tissue from the skull shows the same picture.

Diagnosis—Myeloma.—This case presented the following peculiarities:—

- (1) No Bence-Jones protein was found at any time, although searched for repeatedly.
- (2) Early age of the patient.
- (3) Fairly extensive metastasis.
- (4) High temperature.
- (5) Rapid course of the disease; from onset until death, not more than five months in duration.

The *Canadian Practitioner* will issue a special Cancer Number next March. One of its aims will be to support the American Society for Control of Cancer in its efforts to educate the public regarding early recognition of the disease. An effort will be made, also, to give the general practitioner information respecting precancerous and early cancer conditions, believing that he alone is the proper one to make the early diagnosis and decide on the line of treatment.

Sir Arbuthnot Lane will give his opinions regarding chronic intestinal stasis as a cause of cancer. Among other English contributors will be Dr. A. C. Jordan, whose paper, read by him as President of the Hunterian Society and published in the *B.M.J.*, December 25, 1900, created great interest in Great Britain and America. Dr. Nathan Mutch and Sir Lenthall Cheate will also furnish papers and Dr. Shaw-

Mackenzie will give some of his results in research work carried out in the physiological laboratories of King's College.

It is expected that Dr. Degrais of Paris, will contribute a paper.

From the United States a number have promised to contribute, among them being Dr. Ochsner of Chicago, who will write on cancer of the uterus, Dr. Douglas Quick on cancer of the mouth, Dr. Johnston on cancer of the antrum, Dr. Lee on cancer of the breast, and probably Professor Ewing.

There will be several Toronto contributors, among them Professor Oscar Klotz, who will discuss the pathology of precancerous tissues. Dr. Tovell will describe x-ray diagnosis, Dr. Wells Ross cancer from the surgeon's standpoint, and Dr. Harrison the treatment of cancer by radium, dealing particularly with surface lesions.

Case Reports

HYPERNEPHROMA OF THE KIDNEY, ASSOCIATED WITH REPEATED ATTACKS OF HAEMATURIA AND METASTASES IN THE BONES

J. T. RYAN, M.D.

From the Department of Urology, Montreal General Hospital, Montreal

A white male, referred by Dr. E. J. Williams, Montreal; 46 years of age, engaged in office work, was admitted to the Montreal General Hospital into the service of Dr. F. S. Patch on June 15th, 1923, complaining of haematuria and pain in the left flank.

Personal History.—Born in Canada. Had measles and whooping cough in childhood. At sixteen years of age the tonsils were removed, but he has since been subject to mild attacks of tonsillitis. At eighteen years he had two attacks of left-sided pleurisy, with effusion. Was ill six weeks with each attack. At this time he had cough and night sweats which have since disappeared. Twelve years ago he had neuritis in the left arm. This has not troubled him since. Denied venereal disease. Has used tobacco and alcohol in moderation. Married twenty-one years; has five children alive and in good health. Wife had two stillborn children and one miscarriage at two months. He has had bilateral varicocele in a moderate degree for years.

Family History.—Unimportant; no history of tuberculosis.

Present Illness.—Began the morning of May 3rd, with passage of considerable quantity of blood in his urine, which at the time was painless. He attributed this to having spent a few strenuous hours in his garden on the preceding evening. A few hours later, while at his office, he was seized with pain in the left flank, at first mild, but gradually increasing in severity. This pain lasted throughout the day and remained localized. The bleeding continued for two days, the blood being bright red, intimately mixed with urine, and more marked at the beginning of the act. He rested quietly for six-

teen days, resuming his work on May 19th. That night he had a similar haematuria, the blood being darker and the bleeding less profuse. This lasted but one day. Since then he has been at rest. There was no pain with this attack, but on the following day he complained of slight tenderness, which has persisted, in the left flank. He had two other slight attacks of bleeding, separated by a week's interval, each attack leaving the left flank distinctly more tender. His last attack of haematuria came on the day of his admission to hospital, and was quite severe. He has had no frequency, no urgency and no pain on micturition.

Present Condition.—The kidneys could not be palpated, but there was definite tenderness in the left costo-muscular angle. All systems other than the genito-urinary showed normal findings.

On rectal examination, the vesicles were palpable, but not abnormal. The median groove of prostate was identified. Bilateral varicocele was present.

Urine.—Turbid, brownish, acid. S.G. 1016—1026. Albumin double plus. Microscopically, numerous blood discs. Acid fast bacilli absent on two thorough examinations.

Blood.—Reds, 5,000,000; whites, 7,400; haemoglobin 85%; Wassermann negative.

June 16th.—Cystoscopic examination availed nothing, the time being spent in evacuating blood clots which were numerous and large enough to cause retention of urine. Second examination on June 20th showed distinct blood spurt from left ureteral orifice but no flow of urine was obtained from that side on catheterization. The right side was normal.

Routine x-ray of the genito-urinary tract was negative, but bony changes were noted, involving the entire right half of the pelvis, upper portion of the sacrum, and right half of the body of the 5th lumbar vertebrae. These were thought to be of a malignant character.

The sudden onset of haematuria, its intermittent character and the presence of tumours in the bones, pointed to tumour, and to a type which metastasizes with predilection in bony structures, viz.—hypernephroma. This diag-

nosis was confirmed at operation, June 25th, the tumour being situated at the upper pole of the kidney, growing down into the renal pelvis. The kidney was removed as a palliative operation, the patient making an uneventful recovery.

The haematuria ceased at once, and has not returned.

The value of routine x-ray of the bony system in all cases in which tumour of the kidney is suspected is here strikingly demonstrated.

Retrospect

PERIRENAL INSUFFLATION

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Perirenal insufflation means infiltration of gas in the perirenal tissues. It is done in order to produce greater contrast densities on x-ray plates. The method introduced by Carelli and Sordella is described in an Argentine journal (not available to us). Carrelli has also demonstrated the method in London, New York, Paris and Berlin. Several reports upon the subject have appeared, notably, by Quinby in Boston, Chevassu and Maingot in Paris, and Rosenstein in Berlin.

Carelli's technique, as used by himself at a demonstration before the Royal Society of Medicine in London, has been described by Hernaman-Johnson¹. The patient lies on the face and abdomen. A fine 10 c.m. needle is introduced opposite the second lumbar vertebrae, impinges on it and then is deflected to pass by its transverse process, when it is pushed into the perirenal tissues. The needle, which is left open in order to detect puncture of blood vessels is introduced about 6 cm. Penetration into the perirenal adipose tissue is indicated by manometer oscillations. Oxygen or carbon dioxide gas is then introduced by means of a pump to about 500 cc.. The patient is x-rayed at once. No great discomfort follows. The shadow of the kidney appears in a lake of gas. Carrelli states none of his cases has had perirenal infection.

Chevassu and Maingot², saw in their first case, following Carelli's method, a supraclavicular emphysema result, which caused them to change the technique. They introduced the needle into the costo-lumbar angle, outside the

erector spinae muscle, the patient lying on the side as for a lumbar nephrectomy. The needle is directed inwards and upwards towards the lower pole of the kidney. The perirenal capsule is most voluminous and most superficial at this point. The needle must enter the perirenal capsule, that is, the space lying between the renal fascia, the fascia of Zuckerkindl and the true kidney capsule and must not penetrate the kidney. According to the fatness of the patient, the needle enters 5, 6 or 7 cm.

In the following number of the same journal their further experiences are detailed³. They report the difficulty of penetrating with sureness the perirenal space, and, this being successfully accomplished, of the difficulties of interpretation, owing to the formation of gas pockets, etc. It cannot be gainsaid that in many cases, one secures x-rays in which the contour of the kidney is outlined with an intensity otherwise impossible. However, a satisfactory shadow is obtained in 80% of ordinary x-ray pictures of the kidneys. The method gives no information as to the kidney pelvis, and is by no means free from discomfort to the patient from the resultant tension. The technique is uncertain of realization, and should be reserved as a supplementary radiographic method.

M. Marion, during the discussion on this report, stated that Carelli had demonstrated the method on three cases in his clinic. In one, there was no accident, but the x-ray revealed nothing. It was thought that this failure was due to perinephritis, but operation revealed a kidney absolutely free. In the second case, a pneumo-peritoneum followed, and in the third, a mediastinal and cervical emphysema. Marion thinks that the method gives rise to errors in diagnosis, and should not be used as a routine measure.

Quinby⁶ has fewer doubts about the technical difficulties mentioned by Chevassu and Maingot. He follows their method of approach, uses a lumbar puncture needle, collects the oxygen in a sterile litre flask connected with another flask twice this size and filled with sterile water. The water flask is inverted and flowing into the flask containing oxygen, displaces and forces the gas into the flask containing oxygen, displaces and forces the gas through the needle. If the needle is properly placed the flow of gas is obtained with only moderate pressure. If the flask has to be elevated more than two feet, the needle is not properly placed. Using oxygen, Quinby gets best results by making the x-ray exposure and injection of the kidney pelvis 12-14 hours later. Carbon dioxide has greater diffusibility than oxygen. One bad result followed. The patient at once showed pallor, sweating, faintness, laboured breathing and a slight cough, all of which disappeared in about thirty minutes. This patient had had previous kidney operations and probably had dense perirenal adhesions. In such a case, perirenal insufflation is contra-indicated.

Boeminghaus⁴ reports the occurrence of a severe gas embolism of the right heart. This was probably due to penetration of an abnormally situated vein, as normally the pedicle

vessels lie more mesially and more deeply than the selected site of puncture. He states that complete resorption of the insufflated oxygen results in two or three days.

Delherm and Laguerriere⁵ suggest making the injection of this gas under fluoroscopic control. They point out that an image of the suprarenal gland is frequently obtained, and better illumination of calculi of the kidney and pelvis results from this method.

Perirenal insufflation with gas, as now used, seems to have but a narrow field of usefulness. In occasional cases, large and fat individuals, where the ureter is blocked by a stone, or the kidney pelvis cannot be injected, perirenal insufflation is of value. The consensus of opinion is that while the method is of value in selected cases, it should only be used when other and simpler methods of diagnosis fail to give sufficient information.

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Oral Prophylaxis and Preventive Dentistry.

—The opportunities of the physician for lending his aid in establishing better dental conditions are many, says P. B. Wright, Pasadena, Calif. He can help the great work of oral prophylaxis. The prospective mother should be advised regarding her own teeth, and suggestions should be made as to diet during pregnancy. The old theory that dental operations at this period are harmful has been exploded. The mother should be instructed as to the periods of eruption of the deciduous teeth, if she has not received such information from her dentist, and should be advised regarding the importance of early care of the child's teeth. Inquiry should be made of each patient as to the condition of his or her teeth, and a routine

inspection of the teeth, gums and oral mucous membrane should be given. Early recognition of narrow, contracted dental arches, and a crowded condition of the teeth, with malocclusion, may lead to the correction of the deformity before serious consequences result. Care of the teeth and oral cavity during illness and convalescence adds to the comfort of the patient and promotes prophylaxis. Carious teeth may harbour the germs of contagious disease. By giving consideration to the foregoing suggestions on oral prophylaxis and preventive dentistry, the physician may help in a remarkable degree and will add to the comfort, health and longevity of humanity.—*Jour. Am. Med. Ass.*, Nov. 10, 1923.

Editorial

FORECAST FOR THE COMING YEAR

WITH this issue the Editorial Board completes its task for the year. Doubtless many sins of omission and commission have at various times been inadvertently committed. Nevertheless, the Board looks back upon the past year's work as the accomplishment of an earnest effort to serve the profession in every province, and to advance the interests of all its members impartially.

In forecasting the work of the coming year, the Board desires to emphatically remind all members of the Canadian Medical Association of the fact that the *Journal* is their journal. The great aim of the Editor and of the members of the Board is to make the *Journal* truly representative of Canadian medical thought and activity, by publishing all important papers presented before its Dominion and every provincial association and recording all important research work carried on in Canadian universities and hospitals. To accomplish this it must have the assistance of the members of the Association, and reports from the various secretaries of important items suitable for publication must be received by the middle of the month so that they may appear in the issue of the following month. Delayed reports are of little value. News items of interest are requested from every province.

Original papers are always acceptable when concisely written and not too long. Space in the *Journal* is valuable and costs the Association money. Lengthy papers are seldom carefully read. Con-

tributions may be forwarded directly to the office of the *Journal* or sent through the local secretaries. All will be carefully and sympathetically read by the Editor. Clinical reports of interesting cases, medical and surgical, are always valued, but the Editor desires to add to this statement that hospital card abbreviations should be replaced by good English and the report be followed by a summary of the chief points on which its interest depends.

It is hoped that all University teachers will from time to time use the pages of the *Journal* for editorial remarks and comments on recent advances in science and on new facts or researches of interest to the general profession; such editorial articles to be signed or not as the writer may desire. One of the most important departments of the *Journal* is that of abstracts from the leading journals of other countries, and it is the hope of the Editorial Board that this department during the coming year will be greatly enlarged and improved. Arrangements have been made for the co-operation in this department of many active workers, who will supply the *Journal* with concise and interesting abstracts culled from all the important medical journals English and American, and from the journals of our sister Dominions overseas. We have pleasure also in stating that it is the hope of the Board to increase the number of pages of reading matter in the *Journal* during the year.

THE TUBERCULOUS MAN AT HOME

THERE are men who can write attractively about subjects which may have become trite; and, what is more, they can write repeatedly, with unflinching attractiveness. A subject which

may thus have lost its sharpness of interest to those not specializing in it is tuberculosis: a writer who can so restore their keenness of interest is Dr. David A. Stewart. How arresting is

one of his opening sentences! "The tuberculous man at home is an end-product of our anti-tuberculous campaign." And then, "Whatever he may be or not be, our systems are pretty much on trial in him. If he is doing well physically, morally, industrially, we are considered to be doing well. If he is acting badly, ignorantly, wilfully, it is considered that we are making a failure. If he fails utterly, so do we fail in him. What do we give; what can we give to carry with him upon his great adventure?"

There are the two fundamental points—the responsibility of the medical man in sending the patient back to his home, and the desire to go to the utmost limits in helping him, limits which may seem to lie even beyond those of medical responsibility.

The responsibility, of course, is great. It may be urged that the sending of the tuberculous case home is one of the weak points in our attack on the disease; that the economic and other factors to be considered would be better dealt with in the long run, if the sanatoriums and other institutions assumed his care more completely. But this would be taking for granted a state of public opinion which by no means exists. And Dr. Stewart faces the problem with an earnest thoroughness that takes full account of such objections.

He gives certain things to the patient thus sent forth; he would try to give him others. Diagnosis has been given, "and, let us hope, this diagnosis has been early, exact and adequate": also, treatment and instruction. What he

would give him further is something that is much harder to give, for it is nearly a re-creation of the whole mental and spiritual outlook of the patient. He quotes Bushnell as saying that "the cure of tuberculosis is not medicine but a mode of life." And to support that mode of life there must be deep spiritual energy. In one passage there comes a faint echo of "Erehwon," "The tuberculous man at home. . . is the man who has been soundly converted; who has seen the error of his ways; who has turned over a new leaf."

And this idealistic strain is not felt to be extravagant when he reminds us of the only too well recognized difficulties that the tuberculous man meets at home, living amongst normal busy people. "Some have so much to give up that life seems scarcely worth returning to. There is none who has not 'something to give up.'"

He would give him work, and to anyone who sees and is troubled by the waste of energy in the tuberculous, a waste sometimes only apparent, but often very real, the judgment which Dr. Stewart shows is refreshingly clear and firm. It is very hard to steer between the demand for rest and the amount of work a tuberculous patient could and should do. Somewhere else, in a paper on "Rest," Dr. Stewart has said, "I believe twice as much in rest and in twice as much rest for tuberculous patients as I did ten years ago." That is an apophthegm which requires judgment for its application, but then the whole matter is one requiring that high qualification. H. E. McD.

THE INFLUENCE OF THE WEATHER ON INFLUENZA

THE Bulletin of the National Research Council published in Washington was received a few days ago. Its contents are devoted to the discussion of the causes of the geographical variations in the intensity of the influenza epidemic of 1918 as manifested in the several cities of the United States.

For instance the death rate from the epidemic during its first ten weeks was four times greater in Philadelphia than in Milwaukee, and three times greater in Pittsburgh than in Toledo. Among the possible explanations of the great difference in its intensity in different cities and the explosive violence of the

epidemic, four are mentioned. First, both the bacteria and the human organism may be subject to certain inherent physiological rhythms which cause special vigor at some times and in some places. Second, it is equally possible that an increased vigor in bacterial activity may take place because of some special environment. Third, there may be both kinds of rhythms in vigor, physiological and environmental, and these may occur in both the human and in the bacterial organism and act sometimes together and sometimes at separate times. Fourth, bacteria of one kind may influence those of another kind in such a way that the accidental combination of the two at some special phase of their activity may induce great virulence. While acknowledging all these possibilities, one of the earlier problems to be solved is to determine how far environmental conditions appear to affect the virulence of the disease. The present study is therefore confined to an attempt to ascertain why the virulence of the epidemic varied from place to place, and does not touch the problem of its actual etiology. Careful investigation and study of the variations in virulence which took place in thirty-four large American cities as manifested by the excess mortality arising from the epidemic appeared to show that age and sex, the character of the population, the degree of crowding, the rate of recent growth, and the distance of the city from the Atlantic seaboard in no city played any appreciable part. In other words, the severity with which a city was hit by the epidemic appeared to bear no relation to its general sanitary status or to the efficiency of its health organization.

Of all the factors investigated the character of the weather alone appeared

to have any fundamental significance in determining its virulence. This does not mean that the weather was in any sense a cause of the epidemic; and although it was recognized as an important causal factor in producing the variations in virulence there was no definite reason to think it the only factor; nor do the high co-efficients obtained imply that the weather was the chief agent in setting the date of the epidemic or in determining its intensity as compared with that of other epidemics. It is also not necessary to suppose that other epidemics will show exactly the same relationship as this one to weather conditions even though they may be strongly influenced by them. The epidemic of 1918 was so peculiar in its virulence, its rapid dissemination, and its fatality that it may well have been peculiar in its climatic relationships. Even if we have to admit that the weather is an important factor in causing variations in the virulence of influenza, we still have little evidence as to how its effects are produced. Presumably the weather has a depressing effect on the power of resistance to disease in individuals; it is also not improbable that the weather has an important influence upon the vigor, reproductive rate, and dissemination of the disease-bringing bacteria.

The object in presenting this report is partly to call attention to the necessity of investigating and applying to other regions and other epidemics the methods here employed, and also to urge the necessity of further experiments to determine just how far the human subject and the bacteria are influenced by the atmosphere and by other conditions which may increase or diminish the ravages of this disease.

ON DREAMS

PROFESSOR G. ELLIOTT SMITH, of University College, has prepared for publication a series of lectures delivered by the late Dr. W. H. R.

Rivers at Cambridge University. The volume is entitled "Conflict and Dream." The pleasure of reading this interesting book on dream psychology

must be tinged with regret that the author did not live to continue investigations so full of promise. Study of his own and of other persons' dreams led Rivers to accept, though with important modifications, Freud's scheme of the processes by which the dream is produced. The essential feature of Freud's teaching is that dreams as a whole have a meaning, and that their psychological origin can be traced with certainty and precision by means of his psycho-analytical technique—a teaching opposed to that previously held that the dream is an anarchical and chaotic revival of memory in images to which no meaning can be ascribed. The same forces which impel the individual into ceaseless mental and physical activity during the day may be assumed to seek expression and to control the thought processes during sleep. Dr. Rivers accepts this view. When he began to analyse his dreams he discovered that as soon as he became awake he was already having thoughts about a dream, the dream itself being clearly on his mind. He found that the dream images merged by insensible gradations into waking thoughts, and the solution of the dream came in a more or less spontaneous way. Basing his view on the personal study of dreams, a number of which are described in this volume, he suggests as an alternative to the wish-fulfilment theory, the hypothesis that the dream is a solution or attempted solution of a conflict which finds expression in ways characteristic of different levels of early experience.

From the standpoint of Freud the dream is to be regarded as a distorted expression of a primitive impulse seeking only its own end, and has no constructive value. Rivers, on the other

hand, regarded the dream processes as more allied to the thoughts and processes of waking life. He describes a number of dreams in which he detected evidence of a constructive process, and suggested that the dream may be capable of solving or helping to solve practical problems presented in the course of daily life; he explained the superiority in this respect of the state of sleep to the waking life on the hypothesis that during sleep the conflict between opposing impulses is free and open, one impulse is not thwarted by another, so the imagination can apply itself without restraint to finding a solution of the conflict.

Rivers in these lectures gives only brief consideration to the relation of dreams to pathological mental processes. He believed that in mental disorder, as in dreams, the importance of early experience has been greatly exaggerated by Freud and his followers. In an interesting and important lecture on "Symbolism and Dreams," Rivers subjected Freud's theory of Universal Symbolism to criticism. Freud believes that the fundamental and perennial interests of mankind recreate afresh out of individual material stereotyped symbols, the interpretation of which can be supplied from a knowledge of myths, folk lore and primitive beliefs. Rivers believes that no systems of symbolization are of universal distribution and that the so-called innate symbolism is the result of a common tradition so prevalent that it influences every member of the community and becomes at an early stage of his life part of the furniture of the mind, part of a social heritage. It is to be hoped that his views on this subject expressed more fully in various papers may be collected shortly into a book.

A Clinical Study of Ureters.—Alexander Hamilton Peacock, Seattle, urges that the ureters be more carefully studied, for such study will often clear up obscure symptoms which have embarrassed the diagnostician. The ureter should be thought of as a very distine-

tive organ, with its rhythmic contraction and function quite independent of the balance of the urologic tract. The diagnosis of its lesions and the surgery to correct them must all be considered in a separate chapter from the rest of urology.—*Jour. Am. Med. Ass.*, Nov. 3, 1923.

Editorial Comments

A USEFUL DIET TABLE

For the most part food analyses are expressed in percentage values of carbohydrates, fats, proteins, water and salts, the quantity of food itself being given as a unitary or workable value. In clinical work, on the other hand, it is obvious that what is required is a unitary value for the specific carbohydrate, fat or protein content, and with this end in view Dr. H. S. Pemberton of Liverpool was led to devise this simple table which appears in the *British Medical Journal* (Aug. 21, 1923). The factors which determine the success and accuracy of any particular diet would appear to be the ease of original construction, an elasticity which allows if necessary of a daily change with a small demand only on the time and intelligence of helpers and patients. The table has been principally used in the dietetic management of chronic nephritis, diabetes mellitus, hyperchloridia, and achylia gastrica. In these conditions a specific intolerance of one or other of the elements of food is often manifested, and by the use of this table a control of the intake of the offending element may be obtained. The last section of this schedule shows the caloric requirements of the special patient per day, and is to be made up according to the age, occupation and severity of the disease, and will be subject to revision as tolerance varies.

Diet Scale

One ounce of carbohydrate or protein yields 120 calories. One ounce of fat yields 270 calories.
One ounce of carbohydrate is contained in—

- 1½ oz. dry oatmeal (contain 1-3 oz. protein, 1-10 oz. fat).
- 1½ oz. shredded wheat biscuits (contain ½ oz. protein).
- 12 Kalari biscuits (Callard).
- 1 pint of milk (contains 2-3 oz. fat, 2-3 oz. protein).
- 1½ pints cream (contain 1 oz. protein, 6 oz. fat; rich cream contain 12 oz. fat).
- 5 oz. potatoes (contain 1-6 oz. protein).
- 5 oz. baked beans (contain 1-3 oz. protein, 1-10 oz. fat).
- 5 oz. boiled rice or macaroni.
- 1 2-3 oz. bread or toast (contain 1-6 oz. protein).
- 10 oz. strawberries, lemons, or oranges.
- 10 oz. Brazil nuts (contain 1½ oz. protein, 7 oz. fat).
- 10 oz. filbert nuts (contain 1 oz. protein, 7 oz. fat).

- 10 oz. carrots or onions.
- 20 oz. grape fruit.
- 20 oz. ripe olives (contain ½ oz. protein, 5 oz. fat).
- 6 oz. apples, currants, pears, cherries, grapes.
- 5 oz. plums, bananas, or prunes.
- 20 oz. tomatoes or radishes.
- 20 oz. lettuce (contain ½ oz. protein).
- 1 pint beer.
- ½ pint stout.
- ½ pint port wine.
- Thrice-cooked spinach, celery, or cabbage contains no carbohydrates; the carbohydrate in soy bean or mushrooms is not assimilated.

One ounce of protein is contained in—

- 10 oz. smoked uncooked bacon (contain 6 oz. fat).
- 6 oz. ordinary uncooked bacon (contain 3 oz. fat).
- 5 oz. lean smoked ham (contain 1 oz. fat).
- 5 oz. lean uncooked beef or mutton (contain ½ oz. fat).
- 4 oz. roasted lean beef or mutton (contain 1 oz. fat).
- 6½ oz. corned beef (contain 2 oz. fat).
- 5 oz. fresh fowl (contain 1½ oz. fat).
- 5 oz. boiled cod, haddock, sole, or whiting.
- 7 average sardines (contain 1 oz. fat).
- 2 large or 3 small hen's eggs (contain 1 oz. fat).
- 4 oz. cheese (contain 1½ oz. fat) (American, Cheddar, Cheshire).

One ounce of fat is contained in—

- 1 1-6 oz. fresh butter.
- 1 oz. oleo margarine.
- 1 oz. lard, cod-liver oil, olive oil.
- One ounce of whisky, brandy, rum, or gin yields 105 calories.

Requirements: Calories per day in the form of—
oz. carbohydrates.
oz. proteins.
oz. fat.

REFERENCES

E. P. Joslin; *Diabetic Manual*, 1919. P. Cammidge; *Glycosuria and Allied Conditions*, 1913.

We have received copies of publications Nos. 17 and 18 on "Safe water supplies for isolated houses and institutions where a municipal system is not available." No. 17 is an unabridged edition of 46 8-vo. pages. No. 18 is a home-steaders' edition of 34 pp. Both are well written and well illustrated and will prove of great service for farmers and all persons who want to settle in districts away from towns and cities. We congratulate the Department of Health on their publication.

A correspondent has forwarded to us a circular sent out by the Civil Service of Canada announcing open competitive examinations for

several positions, among which is one for a medical officer for the Department of Health at an initial salary of \$2,400.00 per annum which may be increased upon recommendation for efficient service at the rate of \$120.00 per annum until a maximum of \$2,880.00 per annum has been reached. The work demanded is fairly arduous and would appear to demand the whole time of any person holding the position. The qualifications required are high, graduation from a medical college of recognized standing, a license to practise medicine, three years experience in the practice of medicine or two years as a hospital interne; in addition he must have inherent executive ability, tact and good judgment, and possess an excellent physical condition. This competition is restricted to residents of the city of Quebec and a few of the electoral ridings east of it. The *Journal* on behalf of the profession in the Dominion protests against such a small salary for work of such a high character demanding at least 6 years of college training and 2 or 3 years of practical experience.

On the evening of November 7th, Professor Artur Biedl of Prague addressed a representative gathering of physicians and medical students in the medical school of the McGill University. His subject was "Organotherapy." Dr. Biedl differentiated organotherapy from therapy with the chemical compounds isolated from the glands of internal secretion, speaking of it as a special form of protein therapy. Throughout his talk the importance of the inter-relation of the various glands of internal secretion was emphasized, citing as an example how thyroid deficiency causes an upset of the whole endocrine system. For a proper understanding of the endocrine disturbance knowledge of the constitution of the individual is necessary, his somatic and psychic reactions. As the endocrines regulate metabolism so his endocrine formula is his fate. Undoubtedly the endocrine system stands in the first rank as a regulator of basal metabolism, but our standards of normality have not been thoroughly developed. Prof. Biedl cited some of the

work in relation to growth and development, stating that the hormone of growth is contained in the anterior lobe of the pituitary. All trials with growth producing substances should be made during one of the periods of normal growth as these are the sensitive periods. Premature old age can in some cases be avoided by gonad transplantation. In brief the discovery of insulin was referred to, he terming this as the triumph of organotherapy. Organotherapy is no elixir for every case and an indiscriminate use of organs is to be condemned. Following the formal address Prof. Biedl gave an informal talk upon the practical application of organotherapy citing many examples of successful treatment. The address was enthusiastically received.

SURGEON GENERAL CUMMING proposes to carry out an investigation of the ordinary respiratory diseases, such as colds, influenza, and similar conditions which are responsible for a great deal of suffering, loss of time, disability, and a not inconsiderable number of deaths. There are few individuals who do not suffer from some acute respiratory condition at least once a year. Some of these attacks develop into serious conditions such as: chronic sinus inflammation, middle ear disease leading to deafness, mastoid disease, and occasionally meningitis. A detailed study of these minor respiratory diseases will be undertaken in an effort to gather morbidity data over a sufficient period of time and a large enough geographical area to render these studies of value in attempting to prevent these affections. To collect these respiratory histories, negative and positive, the co-operation of students has been obtained in Harvard University, Boston, Johns Hopkins Medical School in Baltimore, Georgetown and Howard Universities in Washington, Tulane University in New Orleans, the University of Chicago, and the University of California. It is anticipated that these studies will extend over a period of two or three years, and that the results will give a more definite idea of the epidemiology of respiratory disorders.

Water Poisoning.—The toxicity of pure, fresh, or distilled water for fish, for isolated organs, and for unicellular organisms has been investigated since the time of Paul Bert, who in 1866 ascribed the toxic effect of fresh water on mullet to the difference in osmotic pressure between fresh and sea water causing the tissues to absorb water in excess. A short time ago (June 9th, p. 986) we gave an account of the results of an inquiry by Dr. J. S. Haldane and Mr. K. N. Moss on the effects of high temperature and muscular exertion upon colliers and stokers, from which it appeared that the ingestion of unusual quantities of water might lead to attacks of cramp, spoken of as "miner's cramp" or "stoker's cramp," believed to be due to a form of water poisoning of the muscles brought about by the combination of great loss of chloride by sweating, excessive drinking of water, and temporary paralysis of the renal excretion. Last year Larson, Weir, and Rowntree described a peculiar form of intoxication in patients with diabetes insipidus, who after hypodermic injection of pituitary extract continued to drink the same quantities of water that they had previously been accustomed to take. Within a few hours these patients manifested severe toxic symptoms—headache, nausea, asthenia, incoordination, and staggering gait. After some experiments on animals the authors concluded that this intoxication could not be induced by water alone or by pituitrin alone, but only by a combination of the two. Rowntree has now published the results of a further research on the production of water intoxication in dogs, cats, rabbits, and guinea-pigs without injection of pituitary extract; it therefore appears that pituitary extract favours the occurrence of water intoxication by lessening the rate of excretion and lowering the rate of water exchange, or by facilitating the escape of water from the vascular system into the tissues, but is not an essential factor when the intake of water exceeds the excretory power of the organism. Large quantities (50 c.cm. per kilogram of body weight) were given by a stomach tube every half-hour. In dogs the phenomena were asthenia, restlessness, frequent micturition, nausea, retching, vomiting, salivation, muscular twitching, ataxia, convulsions resembling those of strychnine poisoning, frothing at

the mouth, and stupor or coma terminating in death or recovery in a few hours (four to twelve). A subacute form lasting for some days was produced in rabbits by the administration of smaller quantities of water continued over a longer time. Intravenous injection of hypertonic (10 per cent.) salt solution was found to prevent or to remove water intoxication. One experiment on a dog with water intoxication showed that the intracranial pressure was raised, and Rowntree considers it probable that this is, in part at least, responsible for the symptoms, and that the increased intracranial pressure probably depends on a disturbance of the salt to water equilibrium of the central nervous system.—*Brit. Med. Jour.*, Sept. 29, 1923.

Uterine Cancer without Haemorrhage.—J. W. Napjus (*Nederl. Tijdschr. v. Geneesk.*, July 7th, 1923, p. 35) states that the ordinary sequence of events in uterine cancer is leucorrhoea which sooner or later becomes fetid, haemorrhage which is usually irregular and sometimes first appears after coitus, and pain. Undeveloped uterine cancer usually causes no pain, and it is not until the growth has invaded the neighbouring parts that pain is felt. Treub, in his textbook on gynaecology, states that haemorrhage must be regarded as the first sign of cancer of the uterus, and Penzoldt and Stintzing, in their *Handbook of Treatment*, state that haemorrhage after the menopause is almost pathognomonic of uterine cancer. Boersma, in 1918, recorded two cases of extensive cancer of the uterus without haemorrhage, and Napjus now reports the following case. The patient was a woman, aged 52, who had suffered from pain in the left thigh for two months without any relief from salicylates. On vaginal examination a very hard cervix was felt without any haemorrhage after examination, and some tenderness in the left parametrium was detected. Per rectum an extremely tender tumour was found on the posterior wall of the uterus, which was fixed to the pelvis. A diagnosis of inoperable uterine cancer was made and confirmed by a biopsy which showed the appearances of an adenocarcinoma.—*Brit. Med. Jour.*, Aug. 18, 1923.

Men and Books

ABRAHAM GESNER

Abstract from a letter written in 1825 by Dr. Abraham Gesner, a short script of whose life appeared in the October issue of the Journal. The letter was received through the kindness of Dr. D. H. Gesner of Grimsby, Ont.

CORNWALLIS, NOVA SCOTIA,
January 31st, 1825.

Dear Brother:—I have just seen our uncle Abraham on his way to the House of Assembly. He said they all were well. The markets in Halifax are much as usual. Rum, sugar and molasses are very high. The minds of the people remain much in their usual state.

I have been nearly six months studying medicine with Dr. Webster, and am firmly resolved to seek a livelihood as one of the faculty. I have been advised to do so by a number of friends and although the study is one of the greatest magnitude, I am in hopes of going into practice in about two and a half or three years from this time. I have made good progress since I began although I did not think the study so difficult. I am till past midnight often poring over dead men's bones and skulls. This you perhaps would think unpleasant but I have got so used to it that I think nothing about it. The spirit is gone the bones are but dust. I am in hopes to be able to attend a course of lectures in New York. Should this be the case I shall visit you. I shall leave Cornwallis when I go to practice and in this case perhaps pay you a visit. I wish you to make me acquainted with the situation of the country where you reside; the customs of the inhabitants, and let me know whether a medical gentleman would be likely to succeed in that place. Dr. Webster, Jr., has now most of the practice in this place. He furnishes me with books and instructions gratis. Dr. Harding also affords me great assistance. One great reason why young men in this place do not succeed better in business is for want of settled habits of industry. Mankind in general are apt to expect too much of their friends. Friendship hardly extends beyond self interest. Self love is the spring of almost all our actions. It is good to learn wisdom but not good to pay too dear for our schooling. The man whose life is unspotted, and truly seeks that wisdom which is from above and lays his treasures up where moth and rust does not corrupt is the only wise one. He whose closet bears witness to his prayers, his heart to his repentance and the world to his piety and benevolence can only be in the way of the truth.

Your brother,
ABRAHAM.

(The letter apparently cost 6/7½ in postage. It had no envelope and was addressed to Dr. David Gesner, Oxford, Upper Canada. The writing resembles copper plate).

MAGIC AND MEDICINE

In the *British Medical Journal*, August 23, 1923, Sir Arthur Keith tells us of a chance encounter over an evening meal in a small inn which led to the Mackie Ethnological expedition into Africa, an account of which has just been published in two volumes now issued by the Cambridge Press. John Roscoe, the editor,

who had been rector of a country parish in Norfolk, was a modest but industrious student who, seeking for an explanation of the strange behaviour which legend ascribed to the ancient Italian "king of the woods," threaded his way to a great discovery—the discovery that at a certain stage of evolution the conduct of even the highest races of mankind was regulated by magic. Sir Peter Mackie of Glenreashdell was greatly interested in the conversation of this Mr. Roscoe who was the author of *The Golden Bough*. He had read that Dr. Charles Seligman found among the Shilluks of the White Nile that the magic rule of priest kings still existed; so it came about as a result of this after-dinner conversation that Sir Peter Mackie placed a sum at the disposal of the Royal Society and that in the following summer, Canon John Roscoe signed on as supernumerary sailor and set sail for Central Africa. John Roscoe had many qualifications for the work he set out to accomplish. He had spent 25 years of his earlier life in Uganda teaching the natives the ways of Christians and studying closely the beliefs and customs which had hitherto regulated their conduct. For over a year under his contract, Canon Roscoe sojourned amongst the western tribes of Uganda. He is now home and has published the result of his researches. The first volume deals with the dominant people of the province of Bunyoro; the second with those of a neighbouring province. In both cases these ruling people are a pastoral folk, dark as negroes, but with features of the Egyptian type. Amongst these dominant pastoral people our author found all the customs which marked the magic rule of priest kings. Medical men will turn to Canon Roscoe's pages for light on the ancient history of their own profession. They will find that the early practice of medicine was founded on a knowledge of magic. More especially was it based upon an acquaintance with the nature and ways of ghosts. Illness might be caused by a friendly ghost or by one of a malevolent nature; in the one case it had to be coaxed out of the patient; in the other it had to be driven out. A belief in magic did not prevent the medical man from applying

means which we in the west regard as rational. He applied splints to fractured limbs in the same manner as did the ancient Egyptians. He cauterized open, suppurating wounds; he removed foreign bodies; he applied pressure to stop bleeding; he blistered, purged and gave emetics, and had a wide knowledge of abortifacients. He demanded his fee in advance, for he knew that the death of the patient wiped out his account. The methods of helping the mother when she was in labour are described; after the child was born the mother left the husband for three years, suckling her child for this length of time. At the age of nine years every girl among these pastoral tribes was secluded and embarked upon a process of fat-

tening, for the value of a bride depended upon the response her body makes to this treatment. This explains the figures of very fat women seen in prehistoric drawings found in caves in various parts of Europe. No praise is too high for the author of these volumes; he sacrificed his ease and risked his health and life to save from extinction a large and valued fragment of human experience.

* *The Bakitara or Banyoro. The first part of the Report of the Mackie Ethnological Expedition to Central Africa.* By John Roscoe, M.A., Honorary Canon of Norwich and Rector of Ovington, Norfolk, formerly of the Church Missionary Society. London: Cambridge University Press, 1923. (Demy 8vo. pp. xvi + 370; 42 plates, map and plan. 25s. net).

The Banyankole. The second part of the above report. (Pp. XII + 176; 31 plates and map. 15s. net).

A Casualty Department Forty-five Years Ago.—The Poet Laureate celebrated his 79th birthday in October, and it is forty years since he retired from medical practice and gave up the posts of assistant physician at Great Ormond Street and physician to the Great Northern Hospital. His strictly medical writings have been few; the only one we can trace is a note contributed many years ago on a case of severe rheumatic fever treated with splints. But in 1878 Dr. Robert Bridges wrote a remarkable paper entitled "An account of the casualty department," describing the medical work of the old surgery at St. Bartholomew's where he acted as "filtrator" of out-patients from 9 o'clock till past noon, spending (as he found) on an average a minute and a quarter over each case. Some 158,000 patients were relieved at St. Bartholomew's Hospital in the year 1877. Pondering over this vast number he asked himself several questions, such as, "Where in the world do all these patients come from? What is the matter with them? Have they anything the matter with them? What becomes of them afterwards? Do they ever go there again? How is it possible to attend to them when they do go? How are they counted, sorted, recognized, prescribed for, dispensed for? What quantity and what sort of medicine do they consume? What does it all cost? Who pays for it, and what is the use of it?" The main

question, however, to which he applied himself, was: "How can they be attended to?" and his answer gives a vivid picture of the machinery of the old casualty department and its work forty-five years ago. Those who performed the feat each morning of clearing the hall of medical casualty patients consisted of Dr. Bridges and two other casualty physicians, and the junior assistant physician, who each attended four mornings a week. Among the problems of a casualty physician was "to weigh the inconvenience of overcrowding the hospital dispensary against the lesser, or at least less visible, inconvenience of treating a number of different complaints with the same medicine; but what stands most in his way is no doubt his want of time.... And yet filter he must, and filter quickly too, and be prepared to hear his quick filtrate shamefully ill spoken of in the wards and in the out-patient rooms.... He will decide at once that what he has to do is the best that can be done for every individual case under the circumstances, and he will make the best of a bad business, and take it patiently." Feeling thus the responsibility and difficulty of the task, Dr. Bridges made a system of hieroglyphic notes for checking off each case as he dismissed it; these records formed the statistical basis of his paper. At that time he saw 7,735 patients in three months, or some 30,000 patients in the year, and of these more

than two-thirds were new cases. In the three months nearly 2,000 of his patients took quassia and iron, affectionately known as "Queen Anne" mixture—"a medicine which I selected to give as frequently as possible in consideration of its strong taste, cheapness and innocuous properties." Allowing for the exiguous sum paid to the casualty physician, it appeared that the total cost of his "Queen Anne" patients was well under twopence a head. Dr. Bridges found that in the year he took book-notes of only 70 cases, and reflected on how much rich material for study was daily thrown away. The congested casualty department in his time supplied less than a quarter of the cases in the wards, and he came to the conclusion that the serious cases bore no relation to the trifling ones, and that the former would come in just as great numbers were the latter discouraged. While agreeing that the mistakes were very rare and the treatment fairly satisfactory, he maintained that the system was intolerable and must be reformed. How far reform has gone in forty-five years might be a congenial subject for inquiry by one of our younger medical poets. Great changes were made for the better when the new casualty and out-patient department of St. Bartholomew's was opened in 1907.—*Brit. Med. Jour.*

Famine and Pestilence in Russia.—In a recent pamphlet Dr. P. Mühlens, bacteriologist of the Tropical Institute at Hamburg, gives an account of the conditions he met with in Russia when as director of the German Red Cross Expedition he visited that country in September, 1921. There appears to be little doubt that the extent of the famine and epidemic disease which devastated Russia in the years 1921 and 1922 was unparalleled in the modern history of Europe, although periods of starvation followed by pestilence have been frequent in Russia since the earliest times. As the result of the failure of the harvest in 1921

it was estimated that by April, 1922, the number of starving persons in Russia, including the Ukraine, was 40 millions. The mortality was highest among children; the death rate in the first year of life was put at 80 to 100 per cent., and in older children at 30 to 40 per cent. Substitutes for bread were made from bark, acorns, grass, straw, and even clay. Numerous cases of coprophagia were reported, particularly among children. Well authenticated instances of necrophagia and cannibalism occurred, as in previous periods of the history of Russia, especially in the famine years of 1230-31 and 1601-2. The diseases following in the train of famine were hunger, oedema, scurvy, noma, intestinal diseases, dysentery, enteric, and, most important of all, typhus and relapsing fever. The last two diseases were spread in the crowded railway carriages and waiting rooms, and homes and camps for refugees, whose lousiness beggared all description, as well as in common lodging houses in the large towns, and also in the hospitals. Whole families fell ill during the railway journey and many died in the carriages or on their arrival. Owing to the disorganization of the sanitary service the number of notifications did not represent the actual number of cases, but in the Ukraine alone it was estimated that during the first four months of 1922 there were 137,083 cases of typhus, 53,578 of relapsing fever, and 42,388 of enteric. In 1921 alone there were 176,886 cases of cholera in Russia, as compared with not more than 50,000 cases during the whole course of the war. No reliable statistics were available concerning malaria. Owing to the exhaustion of the population by famine and disease the carrying out of effective sanitary measures was practically impossible; but Dr. Mühlens pays a high tribute to the Russian medical practitioners and men of science, who, with the most primitive equipment and in unheated laboratories and often without gas or electricity, were able to carry on work of the highest order.—*Brit. Med. Ass. Jour.*, Aug. 18, 1923.

Correspondence

CIVIL SERVICE COMMISSION SALARIES

Dear Editor:—A notice from the Civil Service Commission, mentions a vacancy for assistant librarian at a salary of \$3,600. It seems most inconsistent that this Commission values the position of an assistant librarian much more than that of a quarantine officer at one of our ports of entry into Canada. I wrote to Dr. Routley regarding the very low salaries that they were offering quarantine officers and the

high qualifications they were required to possess. I should think that the qualifications of a man who guards the health of the people against contagious diseases from foreign countries should be worth more than the qualifications of an assistant librarian.

Yours truly,

ARTHUR WILSON,

Medical Health Officer.

Saskatoon, Nov. 7, 1923.

Medical Societies

THE INTERNATIONAL CONGRESS OF SURGEONS—DISCUSSION ON THE SURGERY OF THE ENDO- CRINE GLANDS

Surgery of the endocrine glands was the first subject discussed at the sixth triennial meeting of the International Congress of Surgeons in London this year. Dr. Veau of Paris, discussed the surgery of the thymus in early infancy, pointing out the three types of surgical intervention practised in hypertrophy of the gland. Fixation had been unsatisfactory. Resection of the manubrium without thymectomy he did not consider justified. Subcapsular thymectomy was, in his opinion, the only routine operation to be performed. It was not difficult and had good results. That the mortality was as high as thirty per cent. was largely due to associated conditions, which should be taken account of before operating. Ablation of the gland did not interfere with growth, for only the superior poles were removed.

Radiotherapy was another therapeutic measure of great value, but was not without its dangers. Occasionally symptoms suggesting infantile cholera developed; also, signs of a mild meningitis.

Dr. Lorthioir of Brussels pointed out that the functions of the gland were obscure, but its

ablation could be compared with the removal of adenoids, and, he thought, in time, would be practised as frequently.

Dr. W. J. Mayo discussed the splenic syndrome. He referred to its functions in the removal of degenerated red cells and toxic agents from the blood, and also in the formation of white cells. The normal spleen appears unimportant in function (sic) but the diseased spleen was a serious menace to the constituents of the blood, and to the liver. Its removal in splenomegaly and certain blood diseases removed a pathological agent. A chronically enlarged spleen which did not yield to medical treatment should be removed early, except where contra-indications existed.

He summarized the number of splenectomies performed in the Mayo Clinic up to June 1st, 1923, a total of 304. The two largest groups were under the headings of pernicious anaemia and splenomyelogenous leukaemia. Of the former there were 57 cases with three deaths in hospital and no deaths among the last 38 prepared by blood transfusion. Over ten per cent. of the cases lived more than five years after splenectomy, and over 22 per cent. more than three years. There were no cures, but the abnormal blood picture was improved. But splenectomy in this condition is justified in only a limited number of carefully selected cases.

Twenty-nine cases were operated on for splenomyelogenous leukaemia. One died in hospital; there was great temporary benefit in twenty-eight. Six were alive and able to work, one more than six years after operation. The condition of the blood was improved but it did not return to normal.

Other conditions for which splenectomy was performed were, enlargement due to micro-organisms, syphilis, tuberculosis and the pyogenic organisms; Banti's disease; haemolytic icterus; haemorrhagic purpura; erythraemia. There were also 61 miscellaneous cases.

Surgery of the pituitary body was discussed by Mr. Percy Sargent. What might one expect from operating? Would it alter the secretion of the gland and relieve symptoms due to a disordered metabolism. Was the gland enlarged

to the extent of causing pressure symptoms on neighbouring parts, especially the optic nerves and chiasma; or were there symptoms of increased intracranial pressure? He was trying to pass on the lessons learnt from his own experience. More could be done by relieving local pressure, than by trying to alter the disturbed pituitary function. But removal, which meant partial removal, helped the symptoms, such as visual deterioration and headache. In his opinion, there were a number of causes for the failures, *e.g.*, errors of diagnosis; massive intracranial extension of the tumour, in which an operation could do no more than give palliative decompression; post-operative pituitary toxæmia; in the case of trans-sphenoidal route, sepsis. He advocated the frontal approach to the gland.

The Value of Drugs of the Morphine Group in Relieving Cough.—P. Hecht (*Klinische Wochenschrift*, June 4th, 1923, p. 1069) records the results of clinical observations which he has made in order to determine the value of various derivatives of the morphine group in relieving cough. Codeine is more satisfactory than morphine for the relief of cough, since it is not generally narcotic in its action and does not lead to the formation of a drug habit. It is the most useful of all drugs for the relief of cough and does not produce bad after effects. Severe paroxysms of coughing are often arrested by a sufficiently large dose of codeine (0.05 gram), and the drug can be discontinued without difficulty. The author has tried to find a more powerful and cheaper substitute for codeine. He describes the precautions necessary in testing clinically the value of drugs for relieving cough, and the class of cases most suitable for observation. Paracodeine and dionin were found to be less effective than codeine. But from his observations the author considers that "dicodid" is at least as effective as codeine and is more effective than paracodeine and pantopon. It is preferred by the patients and produces a definite feeling of well-being; but in time a drug habit is formed and there is difficulty in getting the patient to return to the use of codeine.

A Side Light from the Source on Osteopathy.—

In 1874, Andrew T. Still founded osteopathy. He tells about it in his autobiography. He tried to get started in Kansas, but the powers at Baldwin University refused to permit him to expound his doctrines at that institution. In May, 1875, he was in Kirksville, Mo. It appears that he rather anticipated having a hard time, and he tells that his wife promised to stand by him and help him fight his battle. At this point in his story he presents a little incident which we have thought worth quoting:

I did not tell her (his wife) that when I came to Missouri I found a letter addressed to my brother Edward, from brother Rev. James M. Still, of Eudora, Kans., stating that I was crazy, had lost my mind and supply of truth-loving manhood. I read it and thought, as the eagle stirreth up her nest, so stir away, Jim, till your head lets down some of the milk of reason into some of the starved lobes of your brain. I believed Jim's brain would ripen in time, so I let him pray, until at the end of eighteen years he said:

"Hallelujah, Drew, you are right; *there is money in it*, and I want to study 'Osteopathy.' "

We acknowledge that we are responsible for the italics.—*Jour. A. M. A.*, Sept. 29, 1923.

Abstracts from Current Literature

MEDICINE

Physiology of the Extrahepatic Biliary System and its Application to Surgical Therapy. Heyd, C. G. *A.J.M.S.*, October, 1923.

The writer reminds us of the common embryological origin of the stomach, duodenum, liver, biliary system and pancreas. Of the two main functions carried out by the stomach, i.e., secretion and motion, the latter is by far the most important, and is performed in a definitely rhythmical manner. This depends on a neuromuscular mechanism which acts in accordance with the so-called law of the intestine. By this is understood the fact that local stimulation of any segment of the intestinal tube causes a contraction above and a relaxation below the stimulated part. It has also been shown that whenever there is an irritation of the gut tube, an exaggeration of function is soon established in the region above the point of irritation. Any disturbance in the physiology of the external biliary system must be considered with these facts in view.

The conditions under which the bile is secreted and delivered into the duodenum call for some expulsive effort on the part of the muscular elements of the gallbladder, and, for what is equally necessary, a relaxation of the lower part of the common duct, to allow of ejection of the bile into the duodenum. From the neuromuscular point of view, the muscle fibres of the gallbladder and the sphincter of Oddi at the ampulla of Vater, are antagonistic in action.

There are three factors in the delivery of the bile into the duodenum, (a) hepatic secretory pressure, (b) expulsive power of the gallbladder, (c) the action of respiration; but all three are insufficient without the relaxation of the sphincter of Oddi. He dwells on the emptying of the gallbladder as due to overdistension and this sets up the reciprocal half of the reaction. In cholecystectomized animals the delivery is continuous, as there is a loss of the upper half of the mechanism, and the sphincter ceases to function. But in man, after such an operation, the upper part of the common bile duct dilates into an artificial gallbladder, and eventually the mechanism is restored.

In discussing infections of the biliary system, he concludes, after comparing the four possible

channels of infection, that the commonest path is direct infection of the walls of the gallbladder from an infected liver. Infection comes up by the portal vein, involves the periportal tissues and induces an infective process that eventually reaches the gallbladder. This would explain the frequent association of cholecystitis with appendicitis, peptic ulcer, typhoid fever, haemorrhoids, etc.

He concludes that ablation of the gallbladder does not affect the individual, and, as the infection is usually in the wall, removal is the only plan. Certain points are mentioned in the differentiation of the diseased gallbladder from one with stones, e.g., thickening of the walls; presence of saffron-coloured fat up on to the fundus; hyperplasia of nodes in the neighbourhood; papillomatous-like lining membrane. He is inclined to discount adhesions as a sign of inflammation of the bladder.

H. E. M.

Antipneumococcic Serum in Lobar Pneumonia; A Clinical Report. Camac, C. N. B. *Amer. Jour. of Med. Sci.*, October, 1923.

Much value is to be derived from the continual comparison of work, and the writer of this paper looks forward to the publication of results obtained by other workers, in connection with the treatment of lobar pneumonia. His report relates to the serum treatment of this disease in the wards of the Gouverneur Hospital. It covers a period of five years, with a break of two and a half years due to war conditions; but a certain number of military cases are included, which were treated during this period.

In his opinion, there is apt to be a waste of valuable time in diagnosing the type of pneumococcal infection. Many hospitals are not in a position to perform the differential typing as a routine, and until this can be done he thinks that it is well worth while treating all cases of pneumonia with serum before or even without the differentiation; the administration of the antipneumococcic serum is indicated just as urgently as is the use of antimeningococcic serum where there is meningeal involvement.

At the beginning of his series Type 1 serum only was used, all other types being untreated with serum; this was in accordance with the instructions in the Rockefeller monograph. Later on, as valuable time was lost in waiting for reports,

the serum was given in all instances, and in the military cases all were so treated. It was the favourable experience with the latter that led him to adopt the use of polyvalent serum in the Gouverneur Hospital after the war. He admits that laboratory conclusions do not support the use of this particular serum in cases other than Type 1 pneumonia, but his clinical experience, in his opinion, fully warrants the giving of it in all cases.

The total number of all types of lobar pneumonia included in the series was 603. Serum was used in 244 cases, and the mortality was 13.9%. There were 359 not treated with serum, and the mortality in this number was 29.8%. The serum is most valuable in the first twenty-four or thirty-six hours, a point well illustrated in the military cases, who were all treated not later than the second day.

Cases were desensitized by the subcutaneous method, using two, three and five c.cm. at one or two-hour intervals. The usual quantity of serum given was 100 c.c.m., and it was only occasionally necessary to repeat this more than three times at twelve or twenty-four hour intervals. There were two cases of anaphylactic shock, neither of whom showed hypersensitiveness by the subcutaneous administration; in one of them there was a history of asthma. In such cases adrenalin should be given and the serum discontinued at once.

H. E. M.

PAEDIATRICS

Gastric Lavage in Vomiting of Infants.

Jackson, H. F. M.D., *Arch. Paediatrics*, Sept., 1923.

Nineteen different feeding cases with vomiting as the predominant symptom, were treated by lavage and often without change in the feeding. These infants were usually emaciated, fretful and constipated, but presented no signs of obstruction or rumination. When the tube is passed into the stomach a quantity of thick mucus is obtained, often with considerable gas. Thus the underlying condition appears to be a sub-acute or chronic gastritis.

A No. 18 or 20 French catheter attached to a rubber tube and funnel is readily passed into the stomach and from one to one and a half pints of a warm four per cent. bicarbonate of soda solution is run in and out until the return is clear. Improvement is immediate and the vomiting usually ceases after one or two washings. Lavage may have to be repeated once, every day or two,

for a short time. An average gain of one and three-quarter pounds within a month is recorded for the nineteen cases.

L. M. LINDSAY

Constipation in Infants. Guilee, C. G., M.D. *Lancet*, June 15th, 1923.

True constipation results when the bowel content is too dry or the musculature of the bowel is inefficient. Sluggishness in breast-fed infants is usually caused by the early use of cathartics. Castor oil should not be given to new-born infants—a suppository is more effective. A day or two without a stool will do no harm provided there is no colic or accumulation of gas.

In the artificially fed infant true constipation results from feeding too much fat, which combines with calcium to form calcium soaps. To correct this the fats should be more or less replaced by an equivalent amount of carbohydrate. A mixture of carbohydrates is desirable such as Dextri-Maltose, Horlick's Food, Mellen's Food, Liquid Malt Extract, etc. Of the starches the most laxative is oatmeal, which may be combined with one or more of the above mentioned sugars.

Finally, it may be necessary to use a suppository which should be employed at the same time each day to form a regular habit. Cathartics tend to reproduce the trouble. L. M. LINDSAY

OTO-LARYNGOLOGY

Postoperative Lung Complications. Herb.

Isabella C., M.D., Chicago. *A.M.A. Jour.*, July 29th, 1922. LXXIX, No. 5.

This article deals with lung complications following general surgical operations. A series of 107 cases is discussed; four of them were lung abscess; two followed tonsillectomies, in one of which a piece of tonsillar tissue had been aspirated. However, in a series of 12,045 tonsil and adenoid operations, there were only four lung complications, two were abscess and two pneumonia. Regarding preventative treatment, stress is laid on the careful administration of the anaesthetic, with as small a concentration of the vapour as possible. The second point suggested, is the washing of the mouth and throat with an antiseptic previous to operation. P. G. GOLDSMITH

Studies of *Bacillus Fusiformis* and Vincent's

Spirochete. Davis, D. J., M.D., and Pilot, Isadore, M.D., Chicago. *Jour. A.M.A.*, LXXIX, No. 12.

The discussion is for the purpose of proving

that many infections about the mouth and ears which are of a putrid and gangrenous character, are due to these organisms. Their most common habitat is in actinomyces-like granules found in tonsillar crypts. A brief description is given of these granules with a photograph. The question of prophylaxis is taken up, which consists in keeping the mouth clean and the general condition good. Treatment with arsphenamine has given encouraging results. P. G. GOLDSMITH

Observation on the Results of Roentgen Therapy in Chronic Tonsillitis. Babcock, James W., M.D., New York. *Jour. A.M.A.*, February 3rd, 1923, LXXX, No. 5.

A summary of the results observed in a series of cases so treated occurring in the practice of Dr. C. G. Coakley and the author, forms the basis of this very timely and instructive paper. The enthusiastic claims of some advocates of this method of treating chronic inflammation of lymphoid tissue, particularly the tonsils, has been very thoroughly examined. Dr. Witherbee's claims are set forth in detail and these have been refuted by the author's clinical observations, and further confirmed by pathological and bacteriological studies made chiefly at Columbia University. Lederer's paper on the Roentgen Ray in Tonsillar disease (*Jour. A.M.A.*, 79; 1130, Sept. 30th, 1922) is quoted in confirmation.

The author's observations lead to the conclusion that though Roentgen therapy, as now advocated, may cause more or less diminution in the size of tonsils or other lymphoid tissue in the pharynx or naso-pharynx, the residue has been observed acutely inflamed, and much increased in size while inflamed. It has been demonstrated that the small fibrous tonsil is liable to serve as a focus of infection with remote symptoms. The observations on tonsils excised indicate that they are not made free of pathogenic bacteria; there is no evident increase in connective tissue, diminution of lymphoid tissue, lack of activity of the germinal centres or widening of the crypts. Neither the adenoids nor the hypertrophic lymph nodules on the posterior wall of the pharynx disappear, nor do they change in any appreciable way; they are subject to occasional inflammations similar to those preceding Roentgen therapy. General symptoms, involving the heart and joints, have not been relieved in these cases by Roentgen therapy, and, in some of the cases, have improved following an operation some time after the Roentgen therapy.

Case histories and findings are summarized, to support these observations, and attention is directed to the liability of undue enthusiasm about any therapeutic measure as likely to cause injury to those it is designed to benefit, either directly or by supplanting more effective measures. Until it is more definitely shown that diseased tonsils and other lymphoid tissue in the pharynx and naso-pharynx can be eradicated as efficiently by the less unpleasant process, reliance must be placed on surgery. P. G. GOLDSMITH

Seasonal Hay Fever. Black, J. H., M.D., and Annette Black, Dallas, Texas. *Jour. A.M.A.*, December 23rd, 1922, LXXIX, No. 26

In this article the treatment of hay fever in Texas is discussed. Most of the series of 100 cases were of the autumnal variety and were treated with ragweed pollen. The authors claim no complete cures but got various degrees of improvement in all. The intradermal injection of the pollen is advised. In testing they state that only twelve out of ninety cases had escaped intranasal operation, but in no case was the hay fever benefited. P. G. GOLDSMITH

SURGERY

Cancer of the Prostate. A comparison of results obtained by radium and surgical treatment. Bumpus, Hermon C., Jr. *Surg. Gyn. and Obstr.*, August, 1922, XXXV, p. 177.

There are many considerations, which render comparisons between the results of the treatment of prostatic cancer by surgical procedure and radium therapy very difficult. As a general rule, only favourable cases are submitted to operation, whereas radium therapy has been employed where the general condition of the patient, or the extent of the disease would not permit of surgical intervention. Many of these latter cases have been so far advanced, or in such poor physical condition, that death was inevitable, the treatment with radium only resulting in placing an unmerited stigma upon it. Moreover, radium therapy has only been practised since 1915, and in its earliest stages was largely experimental. This fact prevents a just comparison between the results in patients treated surgically and those treated by radium.

The results obtained by the Mayo Clinic in the treatment of 276 patients, 124 by partial prostatectomy and 152 by radium, have been carefully studied and afford interesting conclusions.

The mode of operation, perineal or suprapubic does not seem to be a factor, although slightly better results have followed the suprapubic approach. Neither is the degree of malignancy, up to the limit of operability, a determining factor. Much more important in the prognosis is the histologic type of the growth, as determined by microscopic examination. In 241 cases of prostatic cancer examined at the Mayo Clinic and not treated, the average duration of the disease was thirty-two months from the first symptoms to death. In the surgical group, duration of the disease averaged fifty-seven months. Comparison in this respect with radium would be misleading, owing to treatments being more recent. Considering the patients who have died, those treated by surgery survive, on the average, about ten months longer than those treated by radium. Twice as many surgical patients are alive at the end of a given year after operation than radium patients, and twice as many of the radium group are alive as of the untreated group. The results show the possibility of removing the cancerous process in its entirety, as nine per cent. of the surgical patients are still alive at the end of nine years.

The author is of the opinion that surgery alone gives better results than radium alone. In the future, with improvement in radium technique, the results should be identical. The best results will follow a combination of the two methods of treatment. When used together, the radium should be applied before surgery. F.S.PATCH

* The Relation of Lesions of the Transverse Processes to Pain in the Back and Legs.

Bauman, Geo. I., Cleveland, Ohio. *Journ. of Bone and Joint Surg.*, July, 1923. V. No. 3, p. 579.

The possibility of anomalies of, or injuries to, the lumbar transverse process should be considered in cases of lumbosacral pain, and in cases of referred leg or hip pain, with or without history of injury. These processes show a wide variation in length, shape and direction, and may be a source of pressure upon the lumbar nerves, which cross immediately in front of the lower four. Nerve irritation may be expressed by pain, numbness or paresis, a sciatic pain being the commonest type.

The most definite sign that the transverse process is at fault is the presence of tenderness over its tip, especially when pressure here causes a reproduction of the pain complained of in back or

leg. The fifth transverse process is the most frequent offender and may even cause pain by impinging against the ilium. Lesions found at operation to remove the offending process were elongation of the process, old fracture with angulation, congenital irregularity, and enlargement (sacralization) of the process, (especially the fifth), presence of a fibrous band beneath the process and pressing upon the nerve trunk, pressure of a bony mass attached to the process, either due to old fracture or congenital anomaly. It is to be noticed that transverse processes are excised by the writer with relief of pain in the presence of normal X-ray findings, if there exists tenderness over the tip of the bone. A typical history is one of a strained back with pain persisting on lifting. Manipulations, plaster jacket and treatment of a possible source of infection having failed to relieve, the transverse process is removed. The operative approach is by incision about two inches from midline, going through the fibres of the erector spinae by blunt dissection. The process is bared and removed by chisel and mallet, care being taken of the underlying nerve cord. In the case of a large fifth lumbar transverse process a portion of the posterior extremity of the iliac crest may need removal to expose the low lying fifth process. It is to be noted that good X-rays failed at times to demonstrate a lesion, usually an old fracture, of the processes.

J. A. NUTTER

Synovectomy in Chronic Infectious Arthritis. Swett, P. P. *Journ. of Bone and Joint Surg.*, January, 1923, V. No. 1, p. 110.

Description is given of an operation to remove the diseased synovial membrane in cases of infectious arthritis where all other curative means including removal of infective foci have failed. It is thought that by doing so one can (1) remove the organized exudate (2) remove secondary foci of infection contained in the exudate, (3) promote metabolism. It is to be noticed that the one case which showed ulceration of the joint cartilage failed. It is of interest also to note that in only one case did the removed diseased synovial membrane show micro-organisms. The results have been good, often a complete return of function in joints (usually knees) apparently hopelessly involved. The dissection is carried out by scissors and forceps, and the operative reaction has been slight. The joints have been closed without drainage and no fixation has been employed. The cases were almost all of long stand-

ing, showing marked joint effusion, capsular thickening and fusiform swellings. The synovial membrane was thickened and dense and the organized exudate showed either as villous tags or fringes; as a pannus extending over the articular surfaces; or as a dense tough membrane walling off the capsule into compartments. Synovectomy is to be done while the disease is confined to the capsule and synovial membrane before any damage has been done to joint cartilages. After reporting a number of surprisingly good results the writer closes by saying that synovectomy is a procedure which warrants further consideration in cases of chronic infectious arthritis. It is to be noted that the writer follows the Goldthwaite classification of arthritides, and in this paper makes no reference to the chronic hypertrophic or atrophic types. His cases belong wholly to the chronic infectious type, attributable to teeth, tonsils, urethra, etc.

J. A. NUTTER

Collateral Circulation in Chronic Obstruction of the Pulmonary Veins, and its Relation to Air Embolism Following Various Diagnostic and Therapeutic Procedures (Pneumolysis). Schlaepfer, K. *Surg. Gyn. and Obst.*, October, 1923, XXXVII, p. 510.

Experiments on dogs demonstrate the formation of collaterals between the pulmonary and systemic circulation consequent on the chronic stasis following partial occlusion of the pulmonary veins in one lung. This serves as an explanation for certain pathological processes governing the changes in chronic inflammatory conditions with obstruction of the pulmonary veins in one lung in man. The formation of new collaterals to the veins of the upper thoracic aperture is of the greatest clinical importance. With these facts in mind special attention is indicated in chronic lung tuberculosis when performing a puncture for diagnostic or therapeutic purposes. When breaking up adhesions in the wall of a partial pneumothorax during operations, such as pneumolysis, pneumotomy, and pneumectomy, we have always to face the possibility of the existence of these collaterals as a complicating factor. The main danger in these operations is air embolism through the pulmonary veins into the left heart. The surgeon should attempt to prevent air embolism by taking special precautions

when working in those parts of the lung adherent to the chest wall or mediastinum.

When confronted with an air embolus, stop the operation immediately; pack the wound thoroughly; lower the head and thorax (Trendelenburg position) so that the place of injury is situated below the level of the heart. This diminishes at the same time the danger of an air embolus into the brain. Stimulants may be used to strengthen and reinforce the heart action. Puncture of the right auricle and aspiration of the air, as advised by Delore, will prove very efficacious.

FRASER B. GURD

Empyema Necessitatis. Tees, F. J. *Arch. of Surg.*, September, 1923, VII, p. 321.

In this article the author reviews the routes which are likely to be followed by pus accumulating in the chest cavity if not surgically drained. He points out that possibly encapsulation and absorption of the products of inflammation may occur. Pus may perforate the parietal pleura at one or more points. It may cause ulceration of the skin and spontaneous evacuation; at other times denudation of the periosteum or perichondrium may occur before the pus reaches the surface. Sometimes the pus may burrow for some distance in the muscles.

Perforations most frequently occur in the parasternal line where the chest wall is thinnest; the intercostal spaces lack the support of the intercostal muscles and corresponding gaps are left between the digitations of the deeply placed sternal muscles.

The author states that, while it is conceivable that pus from an empyema might pass down the spine and along the psoas into the iliac fossa, a lumbar abscess could not be formed in this way. Such descriptions are found in many text books, serving to show how a minor inaccuracy may become firmly established. What undoubtedly happens when the abscess appears in the loin is, that the pus has burrowed behind the external arcuate ligament of the diaphragm to invade the quadratus lumborum muscle, the sheath of which is quite distinct from the psoas.

Cases illustrating such tracking, and the presentation of anatomical dissections make clear the route followed in basal empyema pointing in the loin.

FRASER B. GURD

Obituary

DR. ALEXANDER ESSELMONT GARROW

On the morning of November 7th, Dr. Alexander Esselmont Garrow "obeyed the summons that brooks no refusal" and at his residence, 289 Mountain St., Montreal, passed to the peace and quiet of an eternal rest. Dr. Garrow was born in Scotland in 1862. His preliminary education was obtained at the Grammar School in Aberdeen. Coming out to Canada in 1872 with his parents, he attended the Ottawa High School and afterwards spent a year at the Model Training School for Teachers. On graduating he taught in Ontario for five and a half years.

Dr. Garrow began the study of medicine at McGill University in 1885. As a student he was recognized by his fellows as a man of ability and strong personality. He achieved many distinctions during his course and graduated with the highest honours of his year in 1889, winning the Holmes Gold Medal.

For the following five years he practised his profession at Ottawa, and in 1895 he was chosen by Sir Thomas Roddick, then Dean, for the position of Assistant Surgeon to the Royal Victoria Hospital and was at the same time appointed Lecturer in Surgery and Clinical Surgery at McGill University. He became Assistant Professor in 1908. On different occasions he visited Great Britain and the Continent for post graduate study. He wrote a number of articles on surgical topics. He was a past president of the Montreal Medico Chirurgical Society and a Fellow of the American College of Surgeons.

Through the death of Dr. Garrow a great figure has passed away; his loss will be mourned not only in

Montreal, but throughout the whole country. Behind him he leaves the kindly memories of pleasant associations and the record of an upright, earnest and blameless life. His abounding energy and industry made possible for him one of the fullest lives of his time. His powers of application were remarkable and in his life he exemplified the nobleness of toil. He delighted in work for its own sake rather than for any monetary reward it might bring. His patients loved him for his tender care and unselfish devotion, and many were his

"Little, nameless, unremembered acts of kindness and of love."

Dr. Garrow was a doctor's doctor and gave without stint services to his colleagues and their families. As a consultant he brought to the bedside a huge fund of knowledge and experience. Careful and accurate in diagnosis; a skillful operator, cool, courageous and resourceful in emergency, he ranked as one of the leading surgeons of the Dominion. His technique was exceedingly thorough and his operative results good. He was wisely conservative and safe, and kept in close touch with the developments of surgery.

The stress and strain of thirty-four years' hard work told heavily upon him. During the past two or three years many unmistakable warnings of cardiac failure appeared but he kept at his work with vigour unabated until a few weeks before his death. He "died in harness" as he would have wished.

The sadness is that the end came much too soon. His large funeral was a striking tribute to the esteem in which he was held. He leaves a widow and a son and daughter to whom we extend our heartfelt sympathy.

W. GRANT STEWART



DR. ALEXANDER ESSELMONT GARROW

Dr. Richard Eden Walker, one of the best known and deeply respected members of the profession passed away on August 27, 1923, at New Westminster, B.C. Dr. Walker was a quiet man of a retiring nature and a disposition essentially kindly. His reputation was province-wide, and no man held more the respect and affection of those who knew him. He was the type of citizen a country can ill afford to lose. President of the B. C. Medical Association for 1922-23; a member of the Council of the College of Physicians and Surgeons of B. C. for 22 years, having on several occasions occu-

pled the president's chair; he represented this province on the Canadian Medical Council ever since its creation and was its President during 1921-22. He was a man of fine character, exceptional ability and applied in his practice the best that is known in our art. He had a wide experience in all matters affecting the profession and possessed to a remarkable degree a singularly sane judgment which rendered his opinion of real value. He passed away quite suddenly without any sadness of farewell, but he has left behind in our minds and hearts, a very grateful and appreciative memory.

Dr. Thomas W. Jeffs, coroner for Vancouver, B.C., died at the Vancouver General Hospital, October 6th, 1923, in his 66th year, following an operation for a chronic trouble. The news came as a shock to a large number of friends, as Dr. Jeffs was a general favourite in many circles. He was educated at Toronto University, and before coming west in 1890 practised in Apsley, Ontario. He was prominent in Orange circles in British Columbia, attaining the highest office of that organization in the province. In 1906 Dr. Jeffs occupied a seat in the city council as alderman and was a police commissioner in 1907. He married Miss Minnie Cowan and they had a family of two sons and one daughter. As a coroner Dr. Jeffs was distinguished for his outspoken manner when he thought the case deserved it, and at all times for his commonsense instructions to juries. He was zealous of the reputation of his court for impartiality and the proceedings were always conducted in a manner that gave every opportunity to persons under suspicion to clear their names, while at the same time no obstruction was thrown in the way of the police and witnesses to bring out all the evidence.

Dr. Charles Henry Morris, one of the oldest practitioners of Nova Scotia, died at his home in Middle Musquodoboit on the ninth of October. Dr. Morris graduated at Harvard in 1868, and continued in active practice until within a few months of his death. One of the most companionable of men, possessed of a keen sense of humour, kindly and sympathetic, an earnest student and a good observer, prompt in responding to every call, Dr. Morris enjoyed the confidence, respect and affection of a very large circle of friends both within and without the profession. He was thoroughly imbued with the traditions of "the old school," and consistently placed service above self. Long years of a very exacting country practice did not lessen his enthusiasm and love for his profession, so it was not surprising that there was "mourning in the glen" quite comparable to that described by Ian MacLaren, when the good doctor fell victim to the enemy from which he had so faithfully and so successfully protected his fellows for more than half a century.

Dr. J. E. Montgomery, after a week's illness, passed away at Ladysmith, Vancouver Island, on Tuesday, November 6th. He contracted diphtheria which soon developed into a virulent laryngeal form and in spite

of all efforts to save his life his condition rapidly grew worse. Dr. Montgomery graduated from Toronto University in 1910, and received post-graduate courses in Toronto, Chicago and New York. He then served for a time as medical officer on the *Empress of Japan* in the Pacific. Later he practised on Vancouver Island. During the Great War he served for three years with the Canadian Expeditionary Force in France. He was a member of the 13th Field Ambulance Corps. After the war he was appointed medical officer for the employees of the Canadian Collieries Ltd., at Ladysmith, where he lived for the last five years.

Dr. Thomas Phillips, died in Toronto on November the 2nd, aged 90 years. One of the oldest Canadian graduates, Dr. Phillips had been actively concerned in much that was interesting in Canadian medicine. He entered Trinity in 1856, but did not graduate from that institution as a religious test was applied to all intending graduates at that time. Securing his degree from the old Toronto School of Medicine, he practiced for 25 years in Grahamsville, and during that time acted as surgeon of the Peel Regiment during the Fenian Raid. In 1880 he went to Winnipeg, where he became Medical Health Officer, and later on one of the aldermen of the city. He subsequently came to Toronto and practiced there until he retired some time ago.

Dr. Charles Edward MacMillan, a Dalhousie graduate of 1899, died at Inverness on the 26th of October. For some years he represented Inverness County in the Nova Scotia Legislature, and in several ways identified himself with public affairs. He had been in poor health for a long period before his death.

Dr. C. L. Ogden, a graduate of McGill University died in New York, October 20th, at the age of 56 years. For many years he has practiced his profession in Cambridge, Mass.

Major Dr. Norman Grace, died in Renfrew on October the 21st, aged 30 years.

Dr. Lavern Lawranson, died in West Toronto on November 4th, aged 53 years.

Pyelitis of Pregnancy.—A series of twenty-five cases of pyelitis of pregnancy are analyzed by Herman L. Kretschmer, Chicago. In twenty of these twenty-five cases, colon bacilli were obtained on culture; in seventeen, only colon bacilli; in three, only staphylococci; in one, only streptococci; in one, only diphtheroids, and in three, colon bacilli and staphylococci. A careful review of the bacteriologic findings gave: bilateral cases, twenty; right side only, five; left side only, none. Leukocyte counts were recorded in nearly all the cases. The highest figure recorded was 30,200; the lowest during the attack was 7,600. The largest num-

ber of cases of pyelitis of pregnancy can be handled in a conservative way. In cases that fail to respond to this treatment and in which the patient's condition is such as to demand treatment, pelvic lavage with silver nitrate, with or without ureteral catheter drainage, is the most rational and logical as well as the safest and most successful form of treatment. Failure of this form of treatment, after a thorough trial, probably calls for a rapid termination of the pregnancy. Surgical procedures on the kidneys, such as nephrotomy or nephrectomy, are not justified in pyelitis of pregnancy. —*Jour. Am. Med. Ass.*, Nov. 10, 1923.

News Items

GENERAL

BANQUET GIVEN BY THE GOVERNORS OF THE UNIVERSITY OF TORONTO TO PROFESSOR F. G. BANTING, M.C., M.D., D.Sc., LL.D., AND PROFESSOR J. J. R. MACLEOD, M.D., D.Sc., F.R.C.S. F.R.S.

At a special convocation of Toronto University held November 26th, 1923, Chancellor Sir Edmund Walker presiding, the Honorary Degree of Doctor of Science was conferred upon Professors F. G. Banting and J. J. R. Macleod. The candidates were presented by the President Sir Robert Falconer in well chosen words, concisely setting forth the claims of each to the distinction conferred.

In the evening the Governors of the University gave a banquet in their honour, and to celebrate the award to them of the Nobel prize. The function was held in the Hall of Hart House and was attended by some four hundred graduates of the University and representatives of various public bodies. The Honorable Mr. Cody acted as Chairman, and among those at the head table were the Chancellor, Sir Edmund Walker, Sir William Mulock; the President, Sir Robert Falconer; Prof. L. Barker of Johns Hopkins, Prof. A. B. MacCallum of McGill, General Fotheringham; Mr. W. J. Nickel, the Attorney General of the Province of Ontario; the two guests of honour, and Mr. Best. The chairman in an excellent speech reviewed the foundation of the Nobel prize fund, its objects, its restrictions, by whom it had been won. The name of Banting and Macleod would henceforth be enshrined with those of Koch, Behring, Pasteur and Lister.

Sir Edmund Walker outlined the plan adopted by the University to ensure to the fullest extent that the benefits of insulin should accrue to the afflicted diabetics throughout the world and that there should be no commercial exploitation of the remedy. The process of preparation has been patented and rights of manufacture are provided to the Government of each country and to a responsible institution nominated by the Government.

Sir Robert Falconer proposed the toast to Doctors Banting and Macleod who in turn fittingly and feelingly responded. Stress was laid upon the value and necessity of team work in the carrying out of important research

and attention was directed to one table at which were seated twenty-six who had all contributed to the successful issue in the production of insulin.

Professor Barker of Johns Hopkins brought the greetings and congratulations of all Toronto University Medical Graduates residing in the United States. He compared the fate of diabetics of only two years ago to those of the present time. In the one case an outlook of suffering, disability and death; at the present time a diabetic could "eat, drink and be merry," and on the morrow, not of necessity, die.

The Premier of the Province of Ontario was unavoidably absent and was represented by Attorney-General W. F. Nickel who in a brilliant speech described the enthusiastic interest displayed by the Legislature in the marvellous work recently accomplished in the laboratories of the University. Other public bodies were represented, i.e., the College of Physicians and Surgeons of the Province of Ontario and the Canadian Medical Association. The meeting was a most enthusiastic one, all reference to the work of Banting and his associates being cheered to the echo, and upon rising to speak Doctors Banting and Macleod met with an ovation.

J. J. R. Macleod, M.D., D.P.H., F.R.C.S., F.R.S., Professor of Physiology, University of Toronto, was the guest of honour at a banquet tendered him Monday, November 5th at Hart House, on the occasion of his return from Edinburgh where he delivered the Cameron Lectures in Physiology. There were seventy guests representative of the medical profession who responded to the invitation sent out by Dr. Robert T. Noble, several coming from different parts of the province. The toast to the guest of the evening was fittingly proposed by Dr. Noble, and ably supported by Dr. H. B. Anderson, to which Professor Macleod replied. We hope to publish Professor Macleod's reply in full in our next issue.

WESTERN PROVINCES' CONFERENCE.—On Friday, November 16th, 1923, there was held at the Royal Alexandra Hotel, Winnipeg, a conference of representatives of the four Western Provinces, the meeting being attended by the following:—Dr. A. S. Munro, Vancouver, representing British Columbia; Dr. E. W. Allin, and Dr. A. F. Anderson of Edmonton, representing Alberta; Dr.

T. M. Leask and Dr. A. MacG. Young of Saskatoon, representing Saskatchewan; Dr. T. Glen Hamilton and Dr. Gordon S. Fahrni of Winnipeg, representing Manitoba. Dr. E. S. Moorhead of Winnipeg, President of the Winnipeg Medical Society, acted as host, while there were present, on behalf of the C.M.A., the President, Dr. J. F. Kidd of Ottawa, and the General Secretary, Dr. T. C. Routley of Toronto. The purpose of bringing representatives of these four provinces together was to discuss ways and means by which they could best co-operate, one with the other, and also with the C.M.A., in the interests of the members of their respective Medical Associations. During the ten hour conference which ensued, a great many problems were thoroughly discussed, and it was the unanimous opinion of all present that the exchange of views and opinions, and the expression of the various ideas which were presented would have a far-reaching effect upon the coordination of the medical activities of all those concerned. In deciding to hold the annual meetings of the provinces in consecutive order, immediately following the meeting of the C.M.A., an advance step was taken. It is hoped by such action that many of the outstanding medical men of Great Britain and our own country, who will take part in the annual meeting at Ottawa, will find it possible to travel westward and take part in the meetings in the other four provinces. In this manner, a much larger number of practitioners will have the privilege of enjoying the talent available, whereas long distances with

concomitant expenses make it impossible for any large percentage of practitioners in Canada to attend any one medical function. The meeting dates, as tentatively decided upon, are as follows:—Canadian Medical Association, in conjunction with the Ontario Medical Association, Ottawa, Ont., June 17-20, 1924; Manitoba Medical Association, Winnipeg, Man., June 23-25; British Columbia Medical Association in conjunction with the North West Pacific Medical Association, Vancouver, B.C., June 26-28; Alberta Medical Association, Edmonton, Alberta, July 2-4; Saskatchewan Medical Association, Moose Jaw, Sask., July 8 and 9. In addition to the decision made reference meeting dates of the respective provinces, the conference discussed problems of medical legislation, medical education, medical economics and allied subjects, all of which are of particular interest to the medical profession of the entire Dominion. Meetings of this character auger well for the future of a strong national association of the practitioners in medicine in Canada.

On October 12th there was organized in the New York Academy of Medicine "The American Association for the Study and Cure of Cancer." There were over 60 enrolled from eighteen different States of the Union and some from outside countries, as charter members. The next annual meeting will be held in Chicago, in May, during the meeting of the American Medical Association.

NOVA SCOTIA

The faculty of medicine of Dalhousie University has been formally registered by the Board of Regents, New York State Department of Education, as an approved school of medicine.

Dr. G. J. Cassidy, lecturer in physiology at McGill University, has been generously "loaned" to Dalhousie, and is carrying on Professor Harris' classes most acceptably.

Among the Nova Scotians in attendance at the recent Congress of the American College of Surgeons, were Drs. J. G. McDougall, George H. Murphy, and V. L. Miller of Halifax, and Dr. Ross Miller of Amherst.

The serious illness of Dr. Fraser Harris, Professor of Physiology at Dalhousie University, has caused a host of admiring friends the deepest concern. Professor Harris is well known for the unusually attractive manner in which he carries on his teaching, for his intense industry, and for his wonderful versatility. In his illness, he has had many evidences of the loyal affection of his students and professional associates, as well as of the citizens of Halifax in general. It is gratifying to have the assurance that he is progressing favourably, and that, after a reasonable rest, he will be able to resume the work to which he is devoted.

The first meeting of 1923-1924 session of the Halifax Medical Society, held on the tenth of October, took the form of a dinner, at which Dr. M. G. Burris delivered

the presidential address—a scholarly and thoughtful effort, which took the members in fancy far into the future, and anticipated the time when many of the riddles of to-day will be solved, and the practice of medicine conducted on a plane very different from that of the present. At the second meeting, held on the twenty-fourth, Dr. H. B. Atlee discussed the more modern methods of treating gonorrhoea in the female, pointing out the futility of the measures now commonly employed, and indicating the lines of treatment which give reasonable assurance of prompt and certain cure.

Every month, the Department of Public Health, Nova Scotia, issues a modest publication entitled "Public Health Notes," for circulation among physicians only. In the October number, a summary is made of the vital statistics of the province for the first half of the current year. This indicates that the statistics for the full year will again show fairly satisfactory general death and infant mortality rates, while the tuberculosis death rate will be substantially better than that of any previous year. There has been a steady decline in the tuberculosis rate for several years past, but it is still distressingly high, and the Department, so ably administered by Dr. Jost, is fully warranted in continuing to give particular attention to efforts aimed at its reduction. Infantile paralysis has been more prevalent of late than for several years, the cases being wide spread and with little traceable connection. In respect of other communicable diseases, there is little difference from what we are rather strangely in the habit of terming normal. W. H. H.

QUEBEC

Lady Roddick has donated the sum of \$50,000 for the erection of a handsome entrance to the grounds of McGill University on Sherbrooke St. in memory of her husband the late Sir Thomas Roddick.

Dr. William McClure, (1884 McGill) a former Medical Superintendent of the Montreal General Hospital (1885-1888) is on furlough from China with a travelling fellowship of the Rockefeller Foundation. He

holds the appointment of Professor of Medicine in the Medical school of the Christian University, Shantung, China.

Dr. and Mrs. D. H. Ballon have returned from a four months' trip to Europe.

Professor Arthur Biedl of Vienna gave an interesting address on Organotherapy to the members of the Montreal Medical Society.

The professors of the Faculty of Medicine of the Laval University gave a dinner to Dr. Grondin, on the occasion of his departure for Paris, where he will assume the position as director of French Canadian students in Europe.

Dr. A. R. Pennoyer, lecturer in surgery at McGill University, a well-known practitioner and surgeon in Montreal, has been appointed medical advisor of the Bell Telephone Company of Canada succeeding the late Dr. G. A. Winters. Dr. Pennoyer enters upon the duties of his new appointment immediately.

Dr. Raymond Paquin was taken ill in New York and is now in a critical condition in the Notre Dame Hospital, Montreal. Dr. Paquin graduated last year from Laval University and had been attached to the Metropolitan Hospital in New York to follow special courses, when he fell ill and had to be operated on. He is only twenty-four years old and is well-known in Montreal.

The Montreal Diet Dispensary has secured the services of a trained dietitian, Miss Jean Crawford, (Graduate of Macdonald College, P.Q., and Montreal General Hospital) who will supervise all diets and

foods issued by the Society. Cases requiring light nourishment, special food for metabolic diseases, etc., may be referred to the Dispensary. These foods will be furnished upon reasonable notice at proportionate prices.

Drs. E. W. Archibald and C. F. Martin represented McGill at the Tri-State Medical Association Meeting at Des Moines, Iowa, on October 29th, 30th, 31st and November 1st, 1923. Nearly two thousand doctors attended the meeting, which was addressed by a large number of men from the various medical schools in America. A body of two or three hundred members of this Association contemplate a tour of the larger cities of Canada and the British Isles next year, in order to visit the various clinics and learn British methods. Toronto and Montreal will be included in this tour.

One of the outstanding benefits of the medical inspection in Montreal schools, which has been resumed with the opening of the new school year, is that it has prevented any serious outbreak of contagious disease in the city schools, was the comment made by Dr. Boucher, director of the Health Department, when he was asked for some information on the operation of this branch of his department. The staff of nurses and doctors of last year is carrying on as usual he said; though they have an increase of 4,000 children attending the schools of Montreal. The need of maintaining this supervision of the schools is generally recognized by the public. The work the doctors and nurses are doing consists not only in the search for disease among children and in case disease is found the notification of their parents that their children must be seen by their family physician and be treated, but also in the education of the children in matters of hygiene and in the prevention of the development of contagious diseases. G. H.

ONTARIO

On October 13th, Dr. W. E. Gallie of Toronto, addressed the Sault Ste. Marie Medical Society on Orthopaedic Surgery.

Dr. D. E. Robertson of Toronto, addressed the Peterborough Medical Society on October 18th, on "Acute Abdominal Conditions in Children."

On October 18th, Dr. R. W. Mann addressed the Perth County Medical Society in Stratford, on "The Treatment of Diabetes Mellitus."

Dr. J. W. Crane of London, addressed the Sudbury Medical Society on October 18th, on "The Treatment of Nephritis."

The Perth County Medical Society met at Stratford on October 25th; an address was given by Dr. H. S. Hutchinson of Toronto, on "The Modern Treatment of Nephritis."

The Oxford County Medical Society met at Woodstock on October 17th; an address was given by Dr. John A. Macgregor of London, on "Some Side Lights on So-called Indigestion."

The Lincoln County Medical Society met at St. Catharines on October 19th. Dr. E. A. Morgan spoke on "Some Common Errors in the Diagnosis of Acute Conditions in Infancy."

At a meeting of the York County Medical Society held on October 25th, at Woodbridge, Professor A. Hun-

ter of the University of Toronto spoke on "Recent Advances in the Science of Nutrition."

On October 25th, the Peterborough County Medical Society was addressed by Dr. W. T. Connell of Kingston, on "Pernicious and Grave Anaemias."

At a meeting of the Ontario County Medical Society held on October 24th, the following addresses were given:—"Sinus Infections following Influenza," by Dr. P. Goldsmith of Toronto; and "Problems of Infant Feeding," by Dr. A. W. Canfield, Toronto.

The Number 4 District comprising the counties of Haldimand, Halton, Wentworth, Lincoln and Welland, held a district meeting under counsellorship of Dr. F. W. E. Wilson, Niagara Falls, Counsellor for the 4th District, on Wednesday, November 7th, at Hamilton. In the morning a clinic on Rectal Diseases was held at Hamilton General Hospital, by Dr. S. G. Gant, of New York City. In the afternoon at the Royal Connaught Hotel the following interesting programme was carried through with promptness:—Dr. Harold D. Storms, "Postural Treatment"; Dr. F. B. Bowman, "Remarks on Prognosis of Syphilis"; Dr. J. E. Davey, "Remarks on Medical Inspection of Schools"; Dr. T. W. Blanchard, "Effect of Intestinal Pathology on Gastric Radiography, with exhibition of plates"; Dr. T. C. Clark, "Acrodynia—Report of case"; Dr. R. Y. Parry, "Acute (?) Diabetes"; Dr. Rowswell Park, "Radium Treatment"; Dr. J. Heurner Mullin, "Unusual Cases of Diabetes"; Dr. James Roberts, "Present Status of the Schick Test." In the evening a banquet was held at the

Royal Connaught Hotel immediately after which addresses were given by the President of the Association, Dr. Argue of Ottawa, and by the Secretary, Dr. T. C. Routley of Toronto. Both addresses outlined the work being carried out by the O.M.A., and a very keen interest was shown by the medical men present in the work as outlined. After this, Dr. Gant gave two addresses on rectal subjects illustrated by moving pictures. The meeting was a great encouragement to those who have watched the steady growth of the Ontario Medical Association. Gradually men are realizing that in the Ontario Medical Association they have an organization which is on the alert for their best interests, and the future of the Association in this district is assured.

The Kingston and Frontenac Medical Society were hosts for the annual meeting of District No. 7, Ontario Medical Association, under Chairmanship of Dr. L. J. Austin, District Counsellor. The meeting in the afternoon at the General Hospital took the form of a clinical conference. Thirty-one members were present, besides Drs. Argue and J. H. Laidlaw of Ottawa, and Dr. Routley of Toronto. Dr. Austin showed a case of (1)

Achondroplasia—boy of 12 years. (2) Extensive (?) syphilitic ulcer front of right knee. Dr. Miller showed photographs and autopsy specimens of a case of neurofibromatosis or Von Recklinghausen's Disease. Dr. W. T. Connell showed two cases of "Pseudo-hypertrophic muscular dystrophy, one in boy of seven, the other in adult, now 37. Dr. Hopkins showed six cases of chronic chest trouble to emphasize the fallacy of depending too much on inspection as an aid to physical diagnosis of chest conditions. Dr. MacKay showed two cases of bronchiectasis and illustrated the effects of posture in assisting drainage. Dr. Volume showed two cases of tuberculosis showing râles only after coughing, following full expiration. Dr. MacGregor showed a baby with congenital syphilis and discussed treatment of same; also, a pathological specimen from a baby with congenital atresia of the ileum. These cases were discussed by the members present. The meeting then adjourned to the Frontenac Club for dinner, at which fifty sat down. After dinner, addresses were given by Dr. Argue, President, and Dr. Routley, Secretary, on the Association work and activities. The evening concluded with an illustrated address on "16th Century Surgery," by Dr. Austin.

MANITOBA

The annual meeting of the Manitoba Medical Association was held this year at Brandon on October 10th, 11th and 12th. The program and the manner of its execution indicated excellent organization. The guests were taken care of from arrival to departure, and were accorded a warm welcome and were made aware of all that was taking place.

The first session was held in the Brandon Hospital, and by lunch time the party numbered 83. This number continued to grow during the afternoon until in the evening 109 sat down to dinner at the Prince Edward Hotel. After dinner was finished, Dr. S. J. S. Pearce of Brandon, delivered his presidential address on "Men and Things," dealing with prominent men in medicine and with the progress of events in medical science. He paid a high tribute to the work of Pasteur, placing him among the first four most notable figures of medical science in the last century. Among others he alluded briefly to the work of Copernicus, stating that it was not generally known that he was a physician, as he is better known as an astronomer, mathematician and philosopher.

He paid an affectionate tribute to the memory of the late Dr. Gordon Bell whom he described as one of the "joy-riders" of science in the sense that Dr. Bell pursued his scientific calling from pure love. He was a gallant gentleman and a true sportsman. The President then spoke of the many great advances made in modern medicine and referred especially to insulin, a Canadian discovery of the greatest benefit to mankind generally. He also quoted some recent British findings indicating that cancer may be developed from the irritation produced by tarry materials.

He referred also to the successful opposition made to the attempt of osteopaths to obtain a license in Manitoba at the last session of the legislature. No concessions whatever had been made to the unqualified, and he predicted that the cult founded upon a false doctrine would die with the present generation. In order to maintain their position they were already forced to bring themselves into line with scientific medicine. In his opinion the cult of the chiropractics would also die in the same way, as it contained within itself the seeds of early dissolution.

The President called attention to the improper use of the mail service by nostrum and cure-all merchants.

He had taken this matter up with the postal authorities, but was unable to obtain any satisfaction from them. They merely passed the matter along from one department to another.

Dr. Routley, the secretary of the Canadian Medical Association, was present by invitation. He was on his way west to help in the organization of some new districts in Saskatchewan, and was able to spend only a short time in Brandon. In addressing the meeting, Dr. Routley stated that he was willing to admit that the profession had hitherto paid little attention to anything except scientific medicine, but in stating it he regarded it as a compliment to the profession showing its inherent unselfishness. Doctors are notoriously bad business men, but they must learn to take proper charge of their own affairs. It was dangerous not to do so, as it is the policy of the state to take over the affairs of those within it who refuse to take care of their own.

Dr. Routley touched briefly on medical education, asking who is likely to be the best judge of pre-medical requirements; surely the physician. The length of the under-graduate course is being periodically increased, and the most thoughtful in medicine would be the last to turn back the clock and lower the standard of graduation or decrease the time required by the student to cover the course demanded.

In the past, few universities took further interest in the student after his graduation. This now has been completely changed, and there is a growing tendency on the part of all university authorities to follow the graduates in their after-career; and owing to the rapid advances in all departments of science, to enable him to add to his education and to increase his efficiency and value to the nation.

He regarded it as unworthy of the profession the fact that the public know so little of the continued advance of medical science. It is sometimes said that medicine is being commercialized; but as to what medicine is doing for the people little or nothing is heard. The public have a duty to the profession. If they do not realize that fact it is chiefly because they have no data for appraising the value of the services of the profession. This is the fault of the profession.

What is our quarrel with chiropractors and osteopaths? We have no quarrel with any cult, excepting in so far as it preys upon a gullible public. Our opponents

say that we wish to create a monopoly. The truth is that we only insist in the public interest that anyone who treats the sick shall have sufficient knowledge of the anatomy and physiology of the human body and of scientific medicine that his patients shall have a fighting chance of recovery. Our attitude is misunderstood because we have not effectively placed the facts before the public. One of the best methods of making our case known is through various societies and the organizations of the ladies.

The speaker read extracts from the prospectus of a chiropractic training school offering to qualify its students in seventy-five days. Their chief bait appeared to be that they would turn out in the short time given, men who would be on the same level as physicians who had spent many years in the study of medicine. Is it right that the public should be fooled in this way and left ignorant of the truth?

Dr. Routley mentioned what had been done by the C. M. A. in regard to the standardization of drugs, and urged the necessity of having each province in the Dominion represented at all the Council meetings.

Mr. W. G. Hunt, secretary of the Alberta Medical Association, spoke on the need for educating the public in medical matters, and keeping the profession clean within. He suggested that there should be uniform methods for this between the various licensing bodies in all the provinces. He thought this would be of service in preventing unprofessional conduct.

It had been arranged that the members should go to Ninette Sanatorium for the second day of the meeting. The weather, however, prevented this, and instead it was resolved to go to the Brandon Mental Hospital where a very full programme had been prepared for the last day of the meeting. The papers proved in the highest degree interesting, and were illustrated by a number of clinical cases.

At the business meeting in the afternoon the question was raised whether the provincial associations should urge the Workmen's Compensation Boards to take care of men who moved from one province to another while still incapacitated after receiving injuries, and that medical fees for attending such cases should be paid. The matter was referred to the executive committee.

A letter was read suggesting that the western provinces should hold their annual meetings consecutively in 1924 in order to take advantage of the visit of some prominent British physicians. It was felt that the fall was the best time for the annual meeting of the M.M.A. The matter was referred to the executive committee, who were asked to take into consideration the whole of the circumstances. It was thought that the association might co-operate with the Winnipeg Medical Association in entertaining the visitors.

In regard to the proposed visit of the British Medical Association, correspondence had already passed between the C.M.A. and the B.M.A., in which the latter

was invited to meet in Canada in 1926, but the B.M.A. stated that the earliest date at which they could come would be 1927. In view of this at the recent annual meeting of the C.M.A. a resolution was passed to the effect that the British Medical Association was to be invited to hold its annual meeting in Winnipeg in 1927. Although it was known that there is a growing desire on the part of members of the B.M.A. not to meet outside the British Isles, an invitation from Canada would be received with the greatest pleasure. It would be necessary in the near future to send invitations to the B.M.A. from the C.M.A. asking them to meet in Canada in 1927; from the M.M.A. and Winnipeg Medical Society asking them to meet in Winnipeg. The last named body would be the hosts of the B.M.A. The Hon. Sec. was instructed to invite the B.M.A. to Manitoba in 1927.

Dr. Routley pointed out that the C.M.A. met in different provinces each year, and so far the business meetings had not been sufficiently representative of the whole of the Dominion. To overcome this difficulty it was suggested that the expenses of one man from each province should be paid yearly. After some discussion it was agreed to pay the expenses for this purpose.

Election of Officers.—A ballot was taken and the following officers were declared elected: Dr. Gordon S. Fahrni, Winnipeg, President; Dr. Ross Mitchell, Winnipeg, Vice-President; Dr. W. J. Elliott, Brandon, 2nd Vice-President; Dr. N. W. Warner, Winnipeg, Hon. Sec.; Dr. W. L. Mann, Winnipeg, Hon. Treas.

Executive.—The new clause of the constitution was put into effect, and it was decided to re-elect four members of the present executive for one year and four new members for a period of two years. Re-elected for one year:—Dr. T. G. Hamilton, Dr. D. S. McKay, Dr. J. S. Poole, Dr. W. S. Peters. Elected for two years:—Dr. S. J. S. Pierce, Dr. D. A. Stewart, Dr. N. J. Maclean, Dr. A. M. Davidson.

The president appointed Drs. H. W. Wadge and J. D. Adamson, auditors.

A committee was appointed to assist Dr. N. J. Maclean, local chairman of the American Society for the Control of Cancer in propaganda work during "Cancer month." In the evening, papers on tuberculosis were given in the lecture hall of the Brandon Mental Hospital. About two hundred were present including the staff of the hospital.

The last session of the meeting was held in the Brandon Mental Hospital. After an inspection of the institution further papers dealing with mental diseases were read, and a large number of cases were again presented. The meeting concluded at noon. One experienced practitioner stated that the meeting had been conducted throughout with greater punctuality than any medical meeting he had ever attended, and the Brandon doctors received the hearty thanks of all the visitors.

In the evening a public meeting was held, which was well attended. A moving picture film "The Reward of Courage" was shown. This event concluded the meeting.

BRITISH COLUMBIA

VICTORIA MEDICAL SOCIETY

At the regular monthly meeting of the Victoria Medical Society held in the Library Rooms on Nov. 5th, Dr. M. W. Thomas read the report of the special committee of the British Columbia Medical Association on Health Insurance. A free discussion followed and the interest shown proves that the profession in this province has become convinced of the necessity of informing themselves on this important subject. The report was formally presented to a special meeting of the British

Columbia Medical Association on October 10th, by Dr. Lyle Telford of Vancouver, chairman of the special committee. The committee was highly complimented for the large amount of information collected, making the report a valuable contribution to our knowledge of this subject.

The annual meeting of the British Columbia Medical Association was held in Vancouver, July 3rd and 4th, and was well attended. Among the many matters dis-

cussed was the report of the Industrial Service Committee on the railway dispute. It was finally decided that the inclusion of families and dependents in railway contracts was an exploitation of the medical profession and must be eliminated. The report from Dr. Lyle Telford, Chairman of the Central Committee was received on a scheme for taking care of people with limited incomes which it was hoped would solve the question of the pernicious contract problem which was so rife in the province. The following are the officers for the ensuing year:—President, Dr. George Hall, Victoria; Vice-President, Dr. H. McGregor, Penticton; Immediate Past President, Dr. R. E. Walker, New Westminster; President Elect, Dr. C. H. Vroman, Vancouver; Sec. Treasurer, Dr. J. H. MacDermot, Vancouver; Executive Secretary, Mr. C. S. Fletcher, Vancouver. *Executive Committee.*—Dr. J. A. Gillespie, Vancouver; Dr. E. J. Rothwell, New Westminster; Dr. H. H. Murphy, Kamloops; Dr. L. E. Borden, Nelson; Dr. F. W. Drysdale, Nanaimo; Dr. H. E. Tremayne, Prince Rupert; Dr. M. G. Archibald, Kamloops; Dr. C. S. Williams, Trail; Dr. G. K. McNaughton, Cumberland.

The summer School of the Vancouver Medical Association was held during the early days of July. The lecturers were Dr. Henry A. Christian of Boston, Dr. Carl B. Davis of Chicago, and Dr. Andrew Hunter of Toronto. Dr. Howard Fox of New York gave an address on "The Modern Treatment of Skin Diseases." Dr. F. W. Marlowe spoke on "Symptomatology of Pelvic Diseases," and Dr. F. J. Tees of Montreal demonstrated the newest methods of treating fractures. Towards the close Dr. Routley addressed the members on the aims and objects of the Canadian Medical Association.

It is now two years since the re-organization of the B. C. Medical Association. The following facts speak well for the work which has been accomplished during that time:—In January, 1921, there was a membership of 144; in August, 1921, immediately after the reorganization, a determined effort was made which brought the membership up to 295. To-day there are 470 members out of 500 men actively practising in the province. Although the association may be considered as still in its infancy, a number of economic reforms affecting the profession as a whole have been dealt with, whilst numerous individual grievances have been settled or adjusted satisfactorily.

The Educational and Publicity Committee is busy preparing for an intensive "Health Campaign," not only through the columns of the press, but on the public platform. The unqualified success of a similar campaign put on a year ago justifies the assumption that the public are ever anxious to learn all they possibly can in regard to the prevention of disease from those most fitted to teach.

Dr. W. A. Clarke, who, since his return from overseas in 1918, has been employed as Assistant Unit Medical Director to the Soldiers' Civil Re-establishment, has relinquished that position and is now engaged in private practice at New Westminster as a partner

of Dr. T. B. Green. Dr. Clarke will be greatly missed in Vancouver medical circles where his indefatigable work with the Vancouver Medical Society and the provincial Association will not readily be forgotten.

An innovation, in the shape of a monthly luncheon, has been inaugurated by the B. C. Medical Association. The first of the series was held on the 5th of November in the Hudson's Bay Dining Room when an attendance of 75 medical men listened to a very excellent address from Alderman Pettipiece on "The Attitude of Labour towards Health Insurance." It is hoped that Mr. E. S. H. Winn, Chairman of the Workman's Compensation Board, will be the speaker at the next luncheon. His views on "Health Insurance" should prove both interesting and instructive, and a record attendance is expected.

The Vancouver General Hospital Board is to be congratulated in having secured the services of Dr. Fred C. Bell of Winnipeg, as General Superintendent of the hospital in succession to Dr. M. T. MacEachern. Dr. Bell comes to Vancouver with an excellent reputation as a medical man and administrator as well as with a distinguished overseas record. His varied experience as medical superintendent of the Winnipeg General Hospital and later, on his return from the war, as director of records at that institution should prove of inestimable value in his new position. Whilst overseas, Dr. Bell was administrator of the Canadian Special Hospital at Ramsgate, 1,100 beds, from which position, in 1916, he was transferred to London headquarters in charge of hospitalization and allied services. Dr. Bell is a western Canadian by birth and a graduate of the University of Manitoba (1909).

It was decided that the Victoria Society would in the near future undertake another "Health Week," somewhat similar to that held in 1922. At that time a large auditorium was provided and public meetings were addressed on health problems. Among the subjects discussed were, tuberculosis, cancer, social hygiene, preventive medicine and milk. Three doctors covered different phases of each subject and drew crowded houses. The greatest publicity was gained by securing full press reports of all the addresses and free editorial discussions.

The annual meeting of the Victoria Medical Society was held in the Library Rooms, Campbell Building, on October 1st. The president, Dr. Hermann M. Robertson, presiding. The election of officers resulted as follows:—President, Dr. M. J. Keys; Vice-President, Dr. Walter Bapty; Hon. Secretary-Treasurer, Dr. Gordon C. Kenning. The library committee will be composed of the executive committee and the following three members:—Dr. Forrest Leeder, Dr. George Hall, and Dr. M. W. Thomas. The society has been very active and the library is showing steady growth and is much appreciated by the local profession. Doctors M. J. Keys, George Hall, and F. M. Bryant, have been in Chicago attending the congress of the American College of Surgeons. They are visiting other eastern centres and the Mayo Clinic before returning.

Book Reviews

Notes on Medical Treatment of Disease. For Students and Young Practitioners of Medicine. By Robert Dawson Rudolf, C.B.E., M.D. Edin., F.R.C.P. Professor of Therapeutics, University of Toronto; Fellow of the Royal Society of Medicine, Member of the Association of American Physicians, Late Consulting Physician Canadian Forces Overseas. Second Edition. Price \$5.00. University of Toronto Press, 1923.

We welcome with pleasure a second and revised edition of this excellent and very practical volume, presenting modern views on the treatment of disease both in their general principles and in their special applications. An introductory chapter gives a brief but interesting sketch of the evolution from early times of the various systems of therapy, emphasizing the value and power of the *medicatrix naturae*. An excellent chapter follows on the management of the sick, which should be read by every senior student. In it the writer lays down a modified routine for dealing with every patient. Beginning with the diagnosis which so far as practicable should always be made first, the surroundings as it affects his illness must then be considered and necessary changes made. A diet suitable to his condition is to be prescribed, then treatment for the specific cause if that is possible, and finally treatment for disturbing symptoms. In speaking of symptomatic treatment Dr. Rudolf quotes the physiologist Haldane who, writing of the administration of oxygen in inflammatory conditions of the lungs, says, "It may be argued that such measures as the administration of oxygen are at best only palliative and of no use since they do not remove the cause of the pathological condition. As a physiologist I cannot for a moment agree with this reasoning; the living body is no machine, but is constantly tending to maintain or revert to its normal, and the respite afforded by such measures as the temporary administration of oxygen is not wasted, but used for recuperation." Rudolf adds very truly "a symptom is usually a link in a vicious circle and if we can break that link the patient may get well."

Chapters follow on the care of fevered patients, with special remarks on the treatment of enteric fever, on immunity, and on the treatment of the several specific infectious diseases. The treatment of the various diseases of the respiratory system is fully discussed, and prescriptions for special conditions are given. Diseases of the circulatory system, the digestive system, the urinary, and the nervous system follow. The value of the use of oxygen in conditions of respiratory distress is clearly stated. Symptoms demanding venesection are detailed and careful directions are given for the use of digitalis and of quinin sulphate.

The volume is a small 8vo. volume of 450 pp., well printed on good paper. We can strongly recommend it.

Standard Methods for the Examination of Water and Sewage.—Fifth Edition. Published by the American Public Health Association.

All public health laboratory workers will welcome the latest edition of the Standard Methods for the Examination of Water and Sewage. Excellently arranged and well printed on a good quality of paper this edition is a worthy successor to the previous edition. Many minor changes are noted, not the least of which is a change in arrangement which separates method of water analysis from the methods of sewage analysis. Calculations from the International Atomic Weights, 1921-1922, have resulted in many slight

changes in standard solutions. Many methods for calculating final results included in previous editions have been omitted. Comparisons of colour with the Lovibond Tintometer or with Nessler Standards are no longer official methods. Previous methods allowed the use of glass or metal still for the determination of ammonia, while the new methods require the use of glass flasks.

In the determination of organic nitrogen the addition of KMnO_4 after digestion of water or sewage is no longer recommended. The new standard nitrate solution is ten times stronger than the old.

In the phenol di sulphonic acid method of nitrate determination the new method calls attention to the fact that in the removal of chloride most waters suffer an appreciable loss of nitrate nitrogen if heated with silver sulphate solution, therefore the standard silver sulphate is added to the cold solution.

On page 28 we note the use of the term "beverage alcohol" where the designation "ethyl alcohol" would be more definite and more scientific.

The method for determining temporary hardness by titration with acid is omitted, new indicators for alkalinity and acidity are recognized and a section is devoted to hydrogen ion concentration, with a method for its colorimetric determination. The orthotoluidine method for the detection of free chlorine is made official.

Weaker permanent standards for iron are recommended. H_2SO_4 is used instead of HCl to liberate iodine in the dissolved oxygen determination.

Three methods are given for the quantitative estimation of potassium, and methods for the quantitative estimation of lithium, bromine, iodine, arsenic and boric acid have been omitted.

Methods for the analysis of sewage and sewage sludge have been subjected to minor changes bringing them up-to-date without actually introducing new methods. No changes have been made in the microscopical examination of water.

Under bacteriological examination of water fermentation tubes are required to hold three times as much medium as water to be tested instead of four times as much medium as water. The reaction of culture media is adjusted to a definite hydrogen ion concentration by the phenol-red method instead of titration with phenolphthalein. The most noteworthy change in the bacterial methods is the substitution of eosin-methylene-blue agar or Endo's medium for litmus lactose agar. Whether the elimination of litmus-lactose agar as a standard method for the identification of the colon group marks an advance in the bacteriological methods of water analysis remains to be proven. Litmus-lactose agar is an easy medium to prepare and its use as a laboratory method has been thoroughly demonstrated over a period of many years. Many laboratory workers will consider that it might well have been left as a provisional method, especially as both Endo's medium and eosin-methylene blue agar seem to be much less adaptable to routine laboratory work on a large scale.

A. J. S.

Applied Pharmacology by A. J. Clark, B.A., M.D., F.R.C.P. 5¼ x 8½. p. viii 390. Price \$5.00. J. & A. Churchill, London, 1923. McClelland & Stewart, Toronto.

The author of this small book has successfully attempted to bridge the gap between scientific laboratory pharmacology and the treatment of disease. His teaching shows not only how the scientific facts in regard

to the action of drugs are obtained but also how these act in the human body, in the normal as well as the pathological state. It is an extraordinarily practical book, written simply and directly, and on the whole exceedingly sound in its teaching. It can be strongly recommended to any practitioner either physician or surgeon who is anxious to treat disease with knowledge and success.

V. E. H.

Inflammation in Bones and Joints. By Leonard W. Ely, M.D., Associate Professor of Surgery, Stanford University. Octavo 433 pages, with 144 illustrations. Price \$6.00 net. J. B. Lippincott Company, 201 Unity Bldg., Montreal, 1923.

This very readable volume comprises a discussion of the various inflammatory processes in bones and joints, and is of unusual interest since it presents the author's personal opinions based on extensive clinical and pathological investigations rather than a general survey of the subject. At the same time the opinions of others are by no means disregarded, and the bibliography appended to each section is unusually extensive.

The general make-up of the volume is excellent, the print clear and the illustrations good, except a few of the reproductions of roentgenograms.

While in some instances the author's opinions have not received general endorsement, it can at least be said that he presents valid arguments in their favour. It is of particular interest to note that he still holds that in the "Typical severe spreading osteomyelitis" the inflammation travels widely in the spongy bone in the general direction of the central marrow canal, gains this, and involves its marrow for a greater or smaller distance.

E. R. S.

Surgical "Don'ts" and "Do's." By C. Hamilton Whiteford, M.R.C.S., L.R.C.P., Honorary Surgeon to the Plymouth Infirmary. Price 3s. net. London, Harrison and Sons, Ltd., St. Martin's Lane, W.C. 1923.

This small brochure of 46 pages presents a mass of surgical advice in such concentrated form that it is somewhat difficult to digest. It may be frankly admitted that most of the aphorisms herein contained are so self-evident as to need no proof. It is to be feared, however, that this very fact will lead the average reader to dismiss the book without serious thought, because his self-esteem will not permit him to admit that he can benefit by the simple suggestions offered.

If seriously considered, the work is invaluable, and perhaps one of the most striking paragraphs is "Don't attempt to justify indiscriminate operating by that feeblest of all excuses: 'If I do not perform this operation someone else will.'"

E. R. S.

Journal of the Canadian Association of Massage and Remedial Gymnastics. Editor, Miss H. Hancock. Published bi-annually. Vol. 1, No. 1, 1923.

The first number of the Journal of the Canadian Association of Massage and Remedial Gymnastics has been received. It is well printed and interesting, and opens with a short account of the history of the Canadian association which proposes to celebrate its fourth birthday shortly. The association was incorporated by Dominion charter through the united efforts of the massage associations in Toronto and Montreal. Its membership now is almost 100, and its members are scattered over Canada. The association attempts to standardize the teaching of massage to nurses in training; also a series of lectures and demonstrations has been organized at the local branches. The association hopes to become as influential an agent in Canada as the Chartered Association of Massage and Remedial

Gymnastics in England. Among the papers in this number is an interesting account of Hart House in Toronto, and of the important place which it took in the training of nurses for the Great War and in the restoration of so many of our wounded soldiers to a life of usefulness. An excellent paper is contributed by Dr. F. H. Mackay of McGill University on the influence of emotions in the production of organic disease. Dr. F. W. Harvey of the Montreal General Hospital contributes an interesting and most useful paper on "Lateral Curvature of the Spine" with illustrations, which deserves to be read by physician as well as nurse.

The final paper is a reprint of an excellent article on "Physiotherapy in Stiff and Painful Shoulders," by Dr. Frank B. Granger of Boston, containing many points of interest.

We wish the *Journal* every success, and we hope it will serve as a bond of union between all the members of its widely scattered association.

A. D. B.

Syphilis. By Burton Peter Thom, M.D., Visiting Syphilologist to the Hospitals of the Department of Correction, Welfare Island, New York City. Octavo, 525 pages with 69 engravings. Price \$5.50. Lea and Febiger, Philadelphia and New York.

This is an excellent monograph on the subject, and in its fifty-one chapters deals with every phase of this complex disease. The book is well written, free from verbosity, and expresses the personal views of the author in a clear and lucid manner. In discussing the prognosis of syphilis he enunciates the dictum "Unless we have changed a positive Wassermann reaction to a negative we have not cured syphilis" which appears to be sound teaching, but it is doubtful if the majority of workers will agree with his optimism with regard to the percentage of cases in which this desideratum can be achieved.

It is to be regretted that the chapter on treatment is comparatively so brief. He refers to arsphenamine and neoarsphenamine "or any of their congeners," but gives no indication as to which of the multitude of preparations he has personally found to be the most satisfactory.

E. R. S.

A Text-Book on Minor Surgery. By John C. Vaughan, Director and Visiting Surgeon, Beekman Street Hospital, New York City, and Athel Campbell Burnham, M.D., Former Attending Surgeon, Department of Surgery, Vanderbilt Clinic. Octavo, 627 pages with 459 engravings. Price \$7.75. Lea and Febiger, Philadelphia and New York.

It is obvious that it is difficult to distinguish between minor and major surgery, but it would appear that a volume with the above title should be largely devoted to a full discussion of those details of minor surgical conditions which by reason of their relative simplicity are more or less neglected in works devoted to major surgery, rather than to a consideration of the minor degrees of lesions which may, and usually do, assume major importance. If this idea were carried out it would avoid the frequent repetition of such phrases as "For extreme cases of—reference should be made to the text-books on major surgery."

In the treatment of Colles' fracture, two pages are devoted to splints, while reduction is dismissed with the mere statement that it is necessary. This is followed by the statement that "It is especially inadvisable in this fracture to expect the pressure from the splints to accomplish any appreciable result towards reduction." Examples of fracture where the pressure of splints is useful in this respect are not given for obvious reasons.

The typographical make-up of the book is excellent, the illustrations are good, but the subject matter is disappointing.

E. R. S.

Pregnancy, Lactation and Diet

"The diet of pregnant and nursing mothers should be rich in the accessory factors (vitamins) so that they may be able to supply their offspring."

pp. 70 and 100. Report of Joint Committee of Lister Institute and Medical Research Committee on "Accessory Food Factors (Vitamins)." H.M. Stationery Office.

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Books Received

Diseases of the Skin. By Robert W. MacKenna, M.A., M.D., B.Ch. (Edin.) 451 pages, illustrated. Price \$6.75. Published by McClelland and Stewart, Toronto.

The Ophthalmology of General Practice. By Malcolm Hepburn, M.D. (Lond.), F.R.C.S. (Eng.). 183 pages, with 40 colour and 9 half-tone illustrations. Published by Cassell and Company, Ltd. McClelland and Stewart, Limited, Toronto agents. Price \$3.75.

Medical Treatment of Disease. By Robert Dawson Rudoif, C.B.E., M.D., (Edin.) F.R.C.P. Second edition. 486 pages. Price \$5.00. Published by J. & A. Churchill, London, Eng. Toronto agents, McClelland and Stewart.

Physical Diagnosis. By Richard C. Cabot, M.D. Eighth edition, 536 pages, illustrated. Published by Messrs. William Wood and Company, New York.

Bergey's Manual of Determinative Bacteriology. First edition, 442 pages. Price \$5.50. Published by Williams and Wilkins, Baltimore, Maryland.

Chemical Basis of Growth and Senescence. By T. Brailsford Robertson, Ph.D., D.Sc. 389 pages, illustrated. Price \$3.00. Published by J. B. Lippincott Co., Montreal, Que.

Exercise for Health and Correction. By Frank D. Dickson, M.D. and Rex. L. Diveley, M.D. 127 pages with 112 illustrations. Price \$2.00. Published by J. B. Lippincott Co., Montreal, Que.

Mental Hygiene and the Public Nurse. By V. May MacDonald, R. N. 77 pages, 12 mo. Price \$1.50. Published by J. B. Lippincott Co., 201 Unity Building, Montreal, Que.

International Clinics Vol. III. By Henry W. Cattell, A.M., M.D. 312 pages, illustrated. Published by J. B. Lippincott Co., 201 Unity Building, Montreal, Que.

Histology and Histopathology of the Nervous System. By Dr. Paul Schroder. 161 pages, 53 illustrations. Price \$3.50. Published by J. B. Lippincott Co., 201 Unity Building, Montreal, Que.

Habitual Constipation—Its Causes, Consequences, Prevention, and Rational Treatment. By Ismar Boas, M.D., Translated by Thomas L. Stedman, M.D. 12 mo. Cloth. Illustrated, 299 pages. \$2.00 net. Funk and Wagnalls Company, Publishers, New York.

Rubber and Gutta Percha Injections. By Charles Conrad Miller, M.D. Illustrated, 99 pages. Price \$1.75. Oak Printing & Publishing Company, Chicago, Ill.

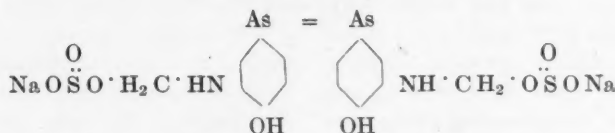
Synovectomy of the Knee Joint in Chronic Arthritis.—Ellis Jones, Los Angeles, reports twelve cases of chronic arthritis of the knee joint in which the synovial membrane was dense and thickened, and in which there was evidence of trauma in almost every joint. In several cases, extensive erosion of the articular surfaces of the condyles was present, the articular surface of the tibia being relatively smooth. Adhesions were commonly found between the synovial folds in the lateral cul-de-sacs of the superior joint. Synovial fringes, fibrillation and derangement of the menisci together with hypertrophy of the alar ligaments and retropatellar pad, were almost constant findings. Pathologic reports showed chronic inflammatory tissue. Cultures were negative, and micro-organisms absent in stained specimens. Restoration of painless function occurred in every case after a synovectomy was performed. Relapse occurred in one case, badly selected, and recovery followed appropriate antisyphilitic treatment. Although syn-

ovectomy in the treatment of the chronic knee joint has distinct value, it must be definitely recognized that its application is limited and must be largely directed to the relief of a disabling condition only after persistent conservative methods have failed.—*Jour. Am. Med. Ass.*, Nov. 10, 1923.

The Contribution of Oral Lesions to the Cause of Cancer.—Joseph A. Pettit, Portland, Ore., asserts that few cases of malignancies of the oral cavity appear without a history of some preexisting oral lesion of either an inflammatory or a traumatic type. These facts and observations should give some credence to the theory that malignancies of other parts of the body may have some type of traumatic or bacterial irritation to cause an unphysiologic and unanatomic overgrowth of otherwise normal cells, disrupting the communistic organization existing in the local area to such an extent that a malignant tumour supersedes normal processes.—*Jour. Am. Med. Ass.*, Nov. 3, 1923.

SULFARSENOL

in the treatment of Syphilis



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Sulfarsenol is the sodic salt of the acid sulphurous ether of Methylol-amino-arseno-phenol. It is a sulphurous acid compound and its strong spirillicidal action is due, not only to the arseno-element, but also to the sulphur-chains which increase its action on parasites. Its activity has often been compared to that of "606."

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(2) It gives rise to **no local trouble** and may be administered **hypodermically** without danger or any special preparation. The advantages of hypodermic administration are that (a) it is simpler than by the intravenous route, (b) a better therapeutic effect is secured (L. W. Harrison), and (c) vasomotor shock is avoided. It will thus be found by the practitioner to be at the same time more convenient and safer to use than other arsenobenzol preparations.

(3) **Stability.** The atmosphere has no immediate action on a solution of Sulfarsenol. A solution has been injected into animals several hours, or even several days after its preparation, without causing increased toxic effects. Consequently it is possible to use a "stock" solution sufficient, for example, for a whole morning or afternoon. In this case a 6 per cent. solution is made **with distilled water**, and thrown away at the end of the day.

(4) **Increased action.** If we judge by its effects on lesions that are visible, 12 centigramme of Sulfarsenol corresponds in its effects to about 20 centigramme "914." In accumulated doses Sulfarsenol is more efficient than any other arsenobenzol compound.

(5) **Guarantee.** Every product has been carefully verified and tested biologically before being sold. Its content in arsenic is approximately 21 per cent.

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Dose 1.....	6 Centigramme	Dose 8.....	48 Centigramme
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— 4.....	24 —	— 11.....	72 —
— 5.....	30 —	— 12.....	84 —
— 6.....	36 —	— 13.....	96 —
— 7.....	42 —		

Doses for children A-B-C-D-E of 0. gr. .005—0.01—0.015—0.02 and 0 gr. .03

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In small doses, of 2 centigramme, it is useful in cases of anaemia and in similar complaints where the tonic effect of arsenic is desired.

In animals it is useful in cases of spirochaetosis, trypanosomiasis, pasteurellosis, etc:

CONTRA-INDICATIONS are very few. It should not be used in cases of advanced tuberculosis, advanced disease of the heart, kidneys or liver, nor in severe diabetes or Addison's disease. It should be employed with careful dosage in any visceral disease, or disease of the central nervous system, the doses being small, increased very slowly and administered hypodermically or intramuscularly.

Samples and Literature on demand addressed to the J. I. EDDÉ, New Birks Bldg. - MONTREAL

Compound Fractures of Long Bones of the Extremities.—Seventy-five cases of fracture are analyzed by H. Earle Conwell, Fairfield, Ala. The series is divided into fractures of the femur, twelve; of the tibia and fibula, forty-four; of the humerus, eight, and of the radius and ulna, eleven. Eighty per cent. of these fractures were in the lower third of bone, and in a large proportion, neighbouring joints were involved; in almost 70 per cent. there was considerable destruction of soft parts. Ninety per cent. of these fractures were comminuted, and in more than 25 per cent. of these cases there was a decided question as to whether amputation was justifiable. The routine treatment in these cases was as follows: Immediately after arrival at the hospital, morphin is given, if necessary. After immediate inspection of the wound, and after the extremity has been properly splinted, temporarily, the patient is prepared for major operation, if the physical condition is good. In cases of shock, the patient is put to bed and given physiologic sodium chlorid solution subcutaneously in large quantities, or blood transfusion, if necessary, and other usual routine treatment used in cases of shock. As soon as the condition warrants, the patient is taken to the operating room. As a routine measure, a thorough débridement is done, consisting in the excision of all macerated and severely traumatized soft parts, with the removal of entirely loose pieces of bone and foreign material of any kind. Then bone fragments are approximated as carefully as possible, usually by periosteal suture with chromic catgut or kangaroo tendon. When this is impossible on account of extensive comminution, muscle suture should be depended on for approximation. Absolute control of haemorrhage in these cases following excision of traumatized soft parts is extremely important, and the end-result largely depends on it. As soon as the operation is completed, fixation apparatus is applied, usually a molded plaster splint for fractures of the leg or forearm, or a Thomas splint for fractures of the femur or humerus, combining the use of the Balkan frame, with proper traction. When the roentgen-ray and physical examinations show that enough callus has formed to prevent the slipping of bone, the plaster splint is frequently

removed and active and passive motion, with massage and hot baths, is used. Conwell is thoroughly convinced that the sooner this secondary treatment is begun, the better are results, although one must be sure that there is sufficient union to prevent slipping of bone ends before regular massage is begun. It is an interesting fact that in over 90 per cent. of this series of fractures, the Wassermann test was positive on a blood specimen taken on the date of injury; but that the second specimen, taken from ten days to two weeks after the injury, was negative in a vast majority of cases. In cases in which the second test was positive, anti-syphilitic treatment was administered.—*Jour. Am. Med. Ass.*, Nov. 10, 1923.

The Therapeutic Value of Type I Anti-Pneumococcus Serum.—The fundamental experiments on which the treatment of lobar pneumonia with serum are based Arthur L. Bloomfield, Baltimore, says show that after the infection has progressed beyond a certain point, no amount of serum will save the infected animal. Evidence is presented by Bloomfield which seems to show that an analogous state of affairs exists in pneumonia in man, and that the best indication that the case is still favourable for treatment is the absence of bacteremia and not the day of the disease. Furthermore, the mortality figures on this basis bring out, in a much more striking way, the therapeutic value of the serum than general gross mortality statistics. The occurrence of bacteremia in relation to the day of disease affords an index for prognosis in lobar pneumonia. As long as the blood culture is negative, spontaneous recovery is possible in the majority of cases. In Bloomfield's series, the percentage of recoveries of patients treated with serum at a time when the blood culture was negative was 100, regardless of the day of disease. It is believed by him that his study reinforces the view that Type I antipneumococcus serum is of real value. The serum appears indicated in all cases, regardless of the day of disease, save those in which an overwhelming bacteremia is present.—*Jour. Am. Med. Ass.*, Oct. 27, 1922.

